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MONTHLY MAGAZINE.

APRIL, 1879.

IT IS NOT necessary for ourselves or desirable to others that we should live always, but it is quite essential for our comfort and the pleasure of our friends that we should have good health. We can be neither happy nor useful without a sound mind in a healthy body. Those who are suffering aches and pains, whose nerves are constantly complaining of ill treatment, can have but little enjoyment, and must be a cause of discomfort to those with whom they associate. To this, as to all general rules, we know there are exceptions, and that brilliant intellects have been the tenants of feeble bodies; but it is the flash of the meteor instead of the steady light of the sun. Well do we know of the enduring kindness and tender sympathy extended to the sick and suffering by kind and loving friends; but we have no right to call for these sacrifices of affection unnecessarily. If sickness can be avoided, we owe it to ourselves and to society to learn and adopt the means.

Sickness will visit nearly all, and death will not pass one by, but we need not court the one nor hasten the other; and above all, should not bring sickness to our homes and friends by unnecessary ignorance and carelessness, by clear and open violations of the laws which God has established for our well-being, and then throw off all responsibility and talk of a mysterious and inscrutable Providence. If a person wilfully sets fire to his house and endangers those

of his neighbors, he is rightfully imprisoned; if he does this even carelessly he is condemned and shunned by society; but if he pursues a course that brings sickness and death to his home, and spreads disease all around the neighborhood, friends call and console him and mourn over his sad affliction.

Our wisest physicians are now looking more to the cause and prevention of disease than to its cure. A few years ago, on the arrival of the physician, after inquiry for the symptoms, the next word was, "Let me see your tongue." Now it is, "Let me see your cellar." One-half the diseases of the world are caused by bad ventilation and want of proper drainage, and nearly all the other half by improper food eaten in an unreasonable manner, and by insane pleasure-seeking, foolishly called recreation. We are not much of a doctor, but have seen something of the world in the last half-century, and have endeavored to profit ourselves and benefit others by what we have observed.

How poorly are the living-rooms ventilated even in costly houses. We breathe unwholesome air almost constantly, and when this becomes unendurable and poor nature cries out for relief in tones that cannot be misunderstood, a window is opened, producing some relief, though very imperfect ventilation, with drafts of air and colds and attendant evils. This practice makes it so difficult to keep plants in living-rooms. They require a pure air and an

even temperature, like ourselves; but we roast them with furnace or stove heat, cover them with dust, and when the thermometer reaches about eighty, and is unendurable almost to a salamander, a sudden draught is thrown upon them from an open window and the poor things suffer and die.

If air changed color when impure and unfit for breathing, and became red or blue, what a revolution would be made in our houses, and how uneasy and frightened the people would become in some of our public halls and churches, and we imagine many long-talkers would be left to teach wisdom to empty seats.

Every room should have a ventilator at the bottom, and this should be connected with a chimney in which a fire is always kept. This, of course, is the kitchen chimney, with which the ventilators should be connected by tin pipes. In chimneys without a fire the current is sometimes downward, instead of upward, thus destroying ventilation.

Dust is a fearful scourge and is the subtle cause of lung diseases. It is an affliction to us quite unendurable, and we pity the ladies who, somehow or other, manage to survive this dreadful trial. Here we might as well say that we are speaking mainly in behalf of the ladies and little children, for while men are engaged ten or more hours in a day at business, taking both air and exercise, and often find it necessary or convenient to take an evening stroll, and the larger children have their out door sports, women and little children, the least able to endure the trial, are compelled to spend both days and nights with scarcely an hour of healthful or invigorating exercise or a mouthful of fresh air in a week. This is particularly the case in the winter season, when the severity of the weather keeps the weaker ones in the house and compels the closing of doors and windows.

It is a mistaken notion that cold air must be pure. With this idea many compel even the weak and sickly to sleep in cold rooms, when a grate fire or a fire on the hearth would give perfect ventilation and be far better in other respects.

In our cold climate, we suppose, carpets are necessary to some extent in the winter season, and a bare floor is "noisy," especially when the children are numerous and lively, but should be dispensed with as much as possible, especially in rooms most commonly used. Let a streak of sunshine stream through a carpeted room when the children are at play, or even when persons are walking about, and see how thickly the air is loaded with particles of dust, and imagine how unfit this is to enter the mouth or nostrils, and how injurious to tender lungs.

We hope some inventive genius will give us a floor covering before long that will not emit clouds of dust every time a foot is pressed upon it. It would be a greater blessing to the world than the discovery of several comets or the utilization of the electric light.

Until this is done we would advise a hardwood floor, at least for three feet from the wall all around the room. It can be made very pretty of ash and chestnut; or even narrow pine boards stained and oiled will answer. This three or four feet all around should be left bare. In the center we would place a carpet heavy enough to keep its place without tacking. Every morning place the chairs and table on the uncarpeted portion of the room, roll up the carpet, throw it out the door or window into the yard and give it a good beating. Instead of covering the people and furniture the dust escapes into the air, and the carpet is made cleaner by one beating than it would have been by a dozen sweepings. Before replacing the carpet a damp mop will lick up every particle of dust from the floor. A carpet thus treated will last longer than three that are nailed down and swept, and we think the people will last longer also. This system is not perfect, and we are looking for a better. Where there are very little children "just toddling about" they are apt to trip up on the edges of the carpet, and that is the greatest objection we have to the plan. In our next we will go into the cellar and have a look at the DRAINS.

BEE PLANTS.

In a late number of the *Popular Science Monthly* a correspondent, Thomas D. Lilly, of Virginia, gives an account of his observation, the past summer, of the visits of bees and other insects to the flowers of Petunias and Morning Glories. As his account of the operations of the insects is so interesting, we here give the communication entire:

"During the summer I spent much of my time in a porch surrounded by Petunias and Morning Glories, of all shades of color from white to bright purple and dark violet. I first observed that the colored Petunias were torn to pieces every day before noon, while the white or pale ones escaped almost uninjured. I soon discovered that the bees and butterflies were the mischief-makers, and that the damage was done with their sharp claws in struggling to get to the bottom of the flower-cup. I kept a close watch down to the present day—when the bees and butterflies are gone, and a few blossoms still remain, never molested—and my first impressions have been fully confirmed. In every

variety of situation and circumstances the white Petunias have been neglected for the colored, in exact proportion to the intensity and vividness of color; and the same I found to be true, in a less degree, as regards the deep and pale Morning Glories. I have called the attention of others to the facts, and proved that the preference of the insects is determined by color alone. If there was any difference whatever in sweetness or fragrance, it was in favor of the rejected white flowers."

The statement of facts here is something new, and we do not offer an explanation of them. There is a popular impression very prevalent that the white Petunia is obnoxious to insects; of the real truth of this, however, we are not prepared to state an opinion. This idea would seem to have some confirmation by Mr. L's observations, as, he remarks, after making the statement of the insects shunning the white Petunias, that he found the same to be true in a less degree, as regards the pale Morning Glories. That is, the insects visited them, more or less, but did not universally shun them as they did the white Petunias. Possibly the white Petunia may yet prove to be an insectifuge. What we would more particularly notice is the deduction that "the preference of the insects is determined by color alone." If this conclusion was intended to apply merely to the flowers which were subject to these observations it might pass unnoticed, although it would not be difficult to show that even in this case it is not warranted by the facts. If, as already suggested, the white Petunia possesses some principle obnoxious to the insects, this would be the cause which determined them to visit the colored flowers, and not the bright colors; that some flowers do thus affect insects is well known, for instance, the Pyrethrums, *carneum* and *roseum*. As previously remarked, we are not aware that the white Petunias possess any such obnoxious principle, but until it is shown that the color is the only difference between the white and the colored flowers we could not consider it logically proved that the preference of the insects is determined by color alone.

But in the statement of this conclusion in connection with that, "if there was any difference in sweetness or fragrance it was in favor of the neglected white flowers," some may be led to suppose that colored flowers are the most desirable for honey purposes for bees. To any such inference we would here oppose a statement of fact, that of the kinds of flowers from which bees gather their honey a large number of them are either white, greenish-white, yellowish-green or apetalous, that is, destitute of petals, and as such comparatively inconspicuous.

In evidence of this position and also as a practical guide to apiarists we here give two lists of bee plants. One of these lists was prepared a few years since by Dr. MUENTER, Director of the Botanic Garden at Greifswald, Prussia. We suppose his knowledge of the value of these plants, for the use of the bees, was obtained by noticing their visits to the plants in the Garden. Rejecting from this list those kinds which produce white and colored flowers on different individual plants, such as *Convolvulus tricolor* and the Campanulas, &c., we find of the rest 121 with colored flowers and forty-four kinds with flowers that are either white or yellowish-green, or, in a few cases, apetalous, that is, without petals. One-third of the whole number bear white flowers, and two-thirds colored flowers. Evidently it cannot be stated as a general principle that bees reject white flowers or those not highly colored.

Prof. A. J. COOK, of the Michigan Agricultural College, author of a valuable manual of the apiary, recently published, gives a list of bee plants which, also, we copy. This list shows a still larger proportion of white, and inconspicuous flowers, amounting to about one-half of the whole number. It must be borne in mind that we have now considered the relative proportion of colored flowers only in reference to the kinds of plants, and not to their quantity. When we consider how universally the white clover (*Trifolium repens*) is spread over the inhabited countries of the temperate zones, and how important a place it holds as a bee plant, when we bear in mind the extent of cultivation of the different members of the Rose family composing the list of our commonly cultivated fruits and their wild congeners, when we think of the millions of acres in the corn and cotton crops of this country, of the large extent of buckwheat annually raised, of the innumerable blooms of the wild and cultivated Maples, Willows, Poplars and Grape vines, having inconspicuous or apetalous flowers, we are able to form something of an idea of the vast excess of the amount of bloom of white and inconspicuous flowers over that of colored ones.

LIST OF DR. MUENTER.

FIRST MARCH TO FIRST JUNE.

Amygdalus nana,	Amygdalus communis,
Anchusa officinalis,	Arabis alpina,
Aubrietia deltoidea,	Adonis vernalis,
Æsculus Hippocastanum,	Barbarea vulgaris,
Cornus mascula,	Crocus vernus,
Corydalis cava,	Corylus tubulosa,
Daphne Mezereum,	Erythronium dens-canis,
Eranthis hyemalis,	Fritillaria imperialis,
Fraxinus ornus,	Galanthus nivalis,
Galeobdolon luteum,	Geranium phæum,
Hyacinthus orientalis,	Helleborus fœtidus.

Helleborus niger,
Lunaria biennis,
Leucojum vernum,
Ornithogalum natans,
Primula officinalis,
Petasites niveus,
Polygonum bistorta,
Prunus Armeniaca,
Ribes sanguineum,
Saxifraga crassifolia,
Saxifraga hypnoides,
Scilla amœna,
Salvia pratensis,
Taxus baccata,

Lunaria rediviva,
Lamium maculatum,
Myosotis sylvatica,
Orobis vernus,
Pulmonaria officinalis,
Picea alba,
Persica vulgaris,
Prunus Mahaleb,
Ribes aureum,
Saxifraga cæspitosa,
Sambucus racemosa,
Symphytum orientale,
Sambucus racemosa,
Taraxacum officinale.

FIRST JUNE TO END JULY.

Allium Schoenoprasum,
Armeria maritima,
Aquilegia vulgaris,
Corydalis solida,
Cratægus nigra,
Digitalis purpurea,
Digitalis lutea,
Dictamnus Fraxinella,
Fragaria Chilensis,
Fragaria Virginiana,
Iris Germanica,
Isatis tinctoria,
Lonicera Periclymenum,
Mahonia aquifolium,
Origanum Creticum,
Pavia flava,
Papaver somniferum,
Polygonatum multiflorum,
Polemonium cœruleum,
Reseda odorata,
Rheum undulatum,
Salvia pratensis,
Syringa vulgaris,
Sinapis nigra,
Thalictrum flavum,
Valeriana officinalis,

Asphodelus luteus,
Althæa officinalis,
Betonica officinalis,
Cratægus coccinea,
Cytissus Laburnum,
Digitalis ambigua,
Diervilla Canadensis,
Fritillaria meleagris,
Fragaria grandiflora,
Iris graminea,
Iris Sibirica,
Lilium Martagon,
Lonicera Caprifolium,
Melittis Mellissophyllum,
Origanum Onites,
Pavia carnea,
Polygonatum officinale,
Populus balsamifera,
Rosa lutea,
Ruta graveolens,
Rosa spinosissima,
Salvia verticillata,
Sinapis alba,
Robinia Pseud-Acacia,
Thalictrum aquilegifolium,
Veronica latifolia.

END JULY TO FROST.

Asclepias Syriaca,
Balsamina hortensis,
Bryonia alba,
Cerinthe major,
Campanula Medium,
Campanula Carpathica,
Cephalaria Transylvanica,
Clarkia elegans,
Delphinium Ajacis,
Echinops exaltatus,
Epilobium angustifolium,
Gladiolus Gandavensis,
Helianthus annuus,
Helenium pumilum,
Hesperis matronalis,
Ipomœa coccinea,
Kitaibelia vitifolia,
Leonurus cardiaca,
Lavandula officinalis,
Linum perenne,
Lavatera Thuringiaca,
Monarda didyma,
Macleaya cordata,
Nicotiana Tabacum,
Nolana paradoxa,
Nigella Damascena,
Oenothera Lamarckiana,
Physalis Alkekengi,
Portulaca oleracea,
Rhus typhina,
Salvia Hispanica,
Solidago Virgo-aurea,

Ageratum Mexicanum,
Borago officinalis,
Cannabis sativa,
Convolvulus tricolor,
Campanula pyramidalis,
Centaurea moschata,
Clarkia pulchella,
Dracocephalum moldavicum,
Delphinium grandiflora,
Echinops sphærocephalus,
Gladiolus floribundus,
Godetia albescens,
Helianthus argyrophyllus,
Heuchera Americana,
Hydrophyllum Virginicum,
Kœlreuteria paniculata,
Lilium candidum,
Lobelia Erinus,
Lythrum Salicaria,
Lavatera trimestris,
Melanthus major,
Monarda punctata,
Nicotiana rustica,
Nicotiana macrophylla,
Nigella sativa,
Nigella Hispanica,
Pentstemon barbatus,
Phacelia congesta,
Rubus odoratus,
Salvia Æthiopis,
Statice Limonium,
Senecio sarracenicus,

Sanvitalia procumbens,
Scabiosa atropurpurea,
Sedum Fabaria,
Spiræa chamæridrifolia,
Tagetes patula.

Silphium amplexicaule,
Sicyos angulata,
Spiræa hypericifolia,
Teucrium chamædryas,

LIST OF PROFESSOR COOK.

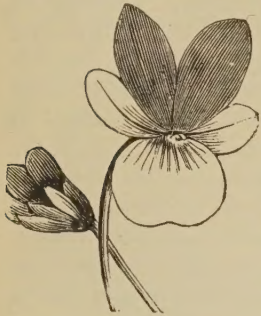
Dandelion,
White Sage,
Coffee Berry,
Alsike Clover,
Horehound,
Bush Honeysuckle,
Motherwort,
Cotton,
Mustard,
St. John's Wort,
Corn,
Catnip,
Rocky M't. Bee Plant,
Bergamot,
Buckwheat,
Golden Rod,
Marsh Sun Flowers,
Beggar Ticks,
Red or Soft Maple,
Silver Maple,
Willows,
Shad-bush,
Sugar Maple,
Hawthorns,
Currant,
Wistaria Vine,
Barberry,
Tulip Tree,
Black Raspberry,
Red Raspberry,
Sourwood,
Basswood,
Pepper Tree,
Red Gum.

Strawberry,
Sumac,
White Clover,
Sweet Clover,
Ox-eyed Daisy,
Sage,
Borage,
Silk or Milk Weeds,
Rape,
Mignonette,
Teasel,
Asparagus,
Boneset,
Figwort,
Snap-dragon,
Asters,
Tick Seed,
Spanish Needles,
Poplar or Aspen,
Judas Tree,
Alder,
Crab Apple,
Fruit Trees—Apple, Pear,
[Plum and Cherry.
Gooseberry,
Chinese Wistaria,
Grape-vine,
Wild Plum,
Locusts,
Blackberry,
Button Bush,
Virginia Creeper,
Late Sumac.

We have thus given a pretty complete list of plants suitable for bee pastures, commonly called honey-producing plants, to which our readers can at all times refer. We have been induced to furnish this list mainly on account of the number of inquiries received seeking information on the subject. It will be observed that most of our garden flowers are honey-producing, as well as many of our wild plants and weeds. The main question is, what can we plant to produce the most food for bees, at the least expense. It would not be wise usually to raise crops of weeds, and it is, of course, best to cultivate plants of value for other purposes, and that the bees can feed on to their hearts' content without depreciating their value. Perhaps no plant will furnish more bee honey to the acre than Mignonette, and yet it will possess no other value, except in the seed. The Sweet Clover, *Melilot*, is a great favorite with bees, but it is a perennial weed and likely to become a great nuisance. The Alsike and White Clover are valuable plants, both for hay and pasturage. We have often been surprised to see the great love bees have for the Onion when in bloom.

THE PANSY.

The Pansy, now so well known, and so popular over the civilized world, and called by a dozen different names, is the child of the simple little annual, Heart's-ease, or Violet, of Europe, and, perhaps, of America, though it is thought to be only a naturalized citizen of this country. This little fellow we present to our readers, so that all may see the humble origin of the beautiful Pansy, and the wonderful improvement made by care in hybridizing and skillful culture. It is true, however, that after the improvement commenced, and the skill of



VIOLA TRICOLOR.

florists was directed to this flower, that hybridization was effected between some of the improved varieties grown from *V. tricolor*, and some perennial species of *Viola*, as *V. altaica*. By this means somewhat of a perennial character was given to our Pansies, so that while they now

flower very early, almost as soon as out of the seed-leaf, there is no difficulty in keeping them in good condition for a year or two.

As before observed, this flower has many names; indeed, every country gives it a pet name. Fringed Violet, Trinity Flower, Butterfly Flower, Love and Idleness, Step-mother, Johnny Jump Up, are among the most common, while the French call it *Pensee*, from which the English name, Pansy, is no doubt derived.

When observing how these flowers flourished in the moist climate of England and Scotland, and how they seemed to revel in the fogs and mists so common in those countries, we feared that America could never produce good Pansies, at least, only well north. Experience, however, has proved that our fears were unfounded. By growing seed from plants of the most compact habit, and that bear the sun best, we have Pansies that rival those of any part of the world, and strange to say, the finest and largest we have ever seen were from the far south, in the vicinity of Charleston, South Carolina. The southern winters are wonderfully adapted to the growth of the Pansy.

We are not aware when the *Viola* was first introduced into gardens, but in a floral work published in 1732 it is described and illustrated with a colored plate, and the flower is very little removed from the wild type. It was about seventy years ago that it first received the attention of florists, and the honor of calling the

attention of professional florists to the Pansy belongs to a lady, who, when quite young, was so pleased with the little flowers that grew scattered about her father's garden that she transplanted the best into a small heart-shaped bed, and enlisted the interest of the gardener in their behalf. He soon succeeded in making such improvement in the



PANSY PLANT.

flowers that nurserymen and florists saw the advantages that might be derived from their culture, and soon there became a Pansy fever all over the country, and this flower became one of the choicest gems of the garden, as it now is.

For the production of good flowers, the Pansy must be young and vigorous, and making a rapid growth. An old, or starved, plant is worthless. It delights in cool nights and moist days, and a week of showery weather will usually double the size of the flowers, and far more if for some days the plants have been suffering for water. As observed, the Pansy is a winter flower for the south, but, at the north, the times of greatest beauty are early spring and autumn. If plants come into bloom in the heat of summer, the flowers will be small at first, but, as the weather becomes cooler, they will increase in size and beauty. Often plants that produce flowers two and a half inches in diameter during the cool, showery weather of spring, will give only the smallest possible specimens during the dry weather of summer. The flowers will be better in the middle of the summer if the plants are grown where it is somewhat shaded from the hot sun, and especially if furnished with a good supply of water.

Seed may be sown in the hot-bed or open ground. If plants are grown in the autumn, and kept in a frame during the winter, with a little covering in the severest weather, they will be ready to set out very early in the spring, and give flowers until hot weather. If seed is sown in the spring, get it in as early as possible, so as to have plants ready to flower during the spring rains. Seed sown in a cool place in June or July, and well watered until up, will make plants for autumn-flowering. In mild winters, as far north as Rochester, we can gather Pansy flowers in the winter season, and last winter there was scarcely a week but a fine collection could be obtained. This winter all are covered with snow, but will be ready for active work on the first approach of spring. Our colored plate was prepared from flowers picked from the beds late in November.

THE TOMATO.

This vegetable is making rapid advances in popular estimation, so that it now takes a high rank in importance as a garden product. This fact has induced a large degree of patient application to experiments in hybridizing, with a view to producing new and improved varieties,



NATURAL PLANT.

and many kinds, with some points of excellence, have been brought out within the past few years.

For many years we have tested every new variety of Tomato that we could obtain, and nearly all have proved inferior, or been found to possess no particular merit over sorts already known and cultivated. During this time more than a dozen kinds have been advertised as from twenty to thirty days earlier than any others, so that, these statements being true, we should now have varieties a year ahead of the old standard sorts. We have a gentleman in charge of our Tomato growing, who is among them constantly, and upon whose notes and comments we mainly rely, while we do not fail to make personal observation, and as closely as our varied duties will permit.

While we have condemned a score of kinds that are considered unworthy of culture, or possessing no particular merit, we have introduced but two new kinds, the *Hathaway*, which is now more generally cultivated, perhaps, than any other sort, and is, without doubt, one of the most valuable Tomatos grown, and the *Vick's Criterion*. The last variety we can hardly claim to have introduced, for it has forced its way into notoriety almost without our consent. Six years ago we grew this sort first, and have grown it ever since; but said nothing about it, for, while it proved the most productive sort we had ever seen, as smooth as an apple, and unequalled for forcing, we had doubts about its quality, at least, our Tomato-grower had, for he has peculiar views about the sweet, rich flavor that a Tomato should possess. However, we sent seeds to the Royal Horticultural Society of England, for trial on their grounds, at Chiswick, and it was not only awarded a first-class certificate, but the

reports of various trials were so favorable that we had to send every seed we could spare to our English friends, who gave it the name which it bears. The English Horticultural journals and the best gardeners of the country seem to be quite unanimous in its praise. Indeed, should we quote the good words said about it by very many, it would show that our Tomato had won golden opinions from the very best judges. The fine engraving of this Tomato, on the opposite page, we take from the *English Journal of Horticulture*.

Among the generally recognized points of merit in the Tomato are, earliness, smoothness, flavor, and solidity or fleshiness. To combine these in the greatest degree is, therefore, the aim of those attempting to produce varieties that will be better than their predecessors. Of these qualities, earliness is the more essential to the market gardener, for the reason, that, by the ordinary mode of forwarding for ten or twelve weeks by means of hot-beds, or forcing-houses, late varieties perfect scarcely half their crop in northern latitudes, while the earlier kinds ripen all their fruit during the summer months, and a large proportion before the markets have become over-supplied and the price scarcely remunerative.

Earliness in the Tomato may be induced by selection, and also by acclimation. Growing successively from seed of the earliest ripened fruit will produce favorable results, and when this is combined with acclimation to high latitudes, a difference in the earliness of a given variety of several days may be obtained.

Solidity, or fleshiness, which is more peculiar to the medium and late varieties, must be re-



PLANT TRAINED.

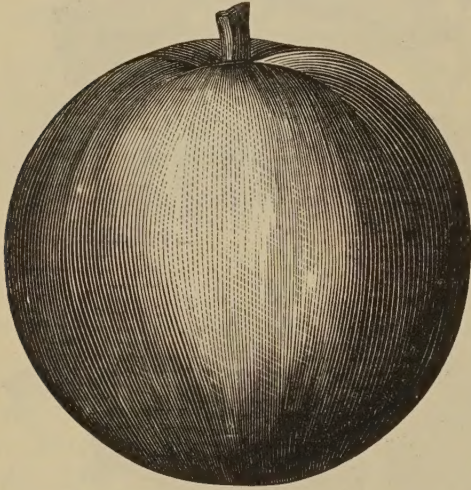
produced in earlier forms mainly by hybridization. To the accomplishment of this result the efforts of many cultivators have been directed for a series of years. New varieties in great numbers have been introduced to the public



VICK'S CRITERION TOMATO.

through the seed-growers and dealers of the country, while many of various degrees of merit pass unnoticed, or have only had a local introduction.

It would seem useless to multiply varieties unless the acme of perfection could be reached, and a kind produced that would prove to be in advance of the present standard sorts, although it must be borne in mind that there is a great diversity of tastes, influenced, no doubt, by



HATHAWAY.

local considerations. In the southern States, late varieties, with fruit of large dimensions, are much in favor; while in the neighboring Dominion, the earliest only are popular or productive. The canning trade, which is attaining large proportions, calls for kinds of tolerable smoothness and solidity.

Many kinds have been tested by the writer—some discarded, others held for further trial. The following notes of a few standard sorts, or those likely to remain such for some years, have been made from observation:

Hubbard's Curled-Leaf. Earliest full-size Tomato, very similar to Early York, of which it is said to be a strain. Dwarf habit, fruit ribbed, and somewhat irregular; valuable sort for the market-gardener.

Early Smooth Red. Well described by its name; a few days later than the above.

Hathaway's Excelsior. Early, medium size, solid and uniformly smooth; superior for all purposes.

General Grant. A standard market variety, about with the Early Smooth Red in earliness; ripens thoroughly.

Conqueror. Similar to General Grant, if not the same.

Vick's Criterion. Medium size, smooth, well adapted for forcing or special treatment, for which purpose it is highly recommended by

English horticulturists; inclined to overbearing with ordinary culture. Time of Hathaway's Excelsior, or a little later, and perfectly healthy where other sorts are diseased.

Trophy. Well-known popular sort; rather late, fleshy and of good flavor.

Paragon. A new Tomato, of merit; round, smooth, and remarkably solid; ripens with the Trophy.

Acme. Similar to the above, except that the color is of a purplish tinge; not so smooth as Paragon, and ripens at the same time.

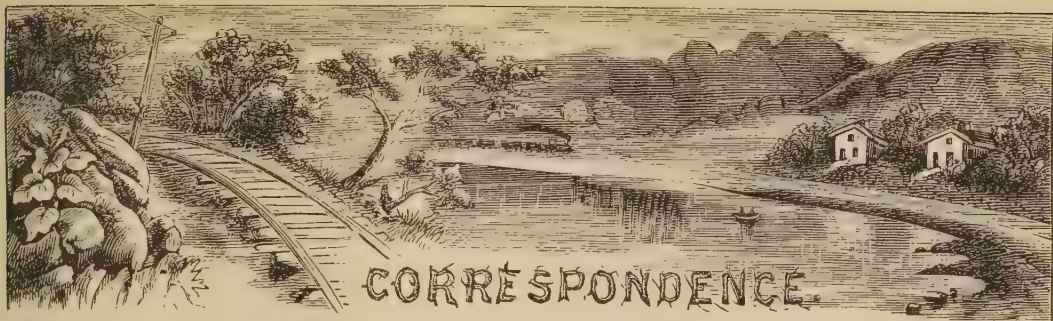
Little Gem. New; bears a large crop of very small-sized fruit, round and smooth; too small for market purposes, though as early as either of the above described varieties.

While something has been done for the improvement of the Tomato, progress has not been rapid nor very marked. Our second early varieties are smoother and more solid than they were twenty years ago, but the very earliest are only slightly improved, while the late kinds, perhaps, were equaled by the *Fejee* and *Lester's Perfected*. The fruit in our markets, generally, are not as good as we could expect, owing to the fact that a good deal of poor seed is saved and used. Too many growers of seed sell their earliest and best fruit; indeed, continue to sell as long as it will pay to gather for the purpose, then the late and ill-formed are ground up for seed, to be sold cheap. Tomato-growers should



1. HUBBARD CURLED-LEAF. 2. EARLY SMOOTH RED.

save their own seed from the earliest and most perfect specimens, or buy of those who have consciences, as well as a thorough knowledge of their business, and never grumble at the price. Wait for the crop, and then, if it is not good, scold.



PÆONIES.

No flowering plants capable of enduring our northern winters are more satisfactory than the Pæonies. Massive without being coarse, fragrant without being pungent, grand without being gaudy, various in form and color, beyond the possibility of being successfully superseded, they stand in the first rank of hardy flowers. They are derived principally from four species, each of which is beautiful—*P. moutan*, *P. Sinensis*, *P. officinalis*, *P. paradoxa*; a few varieties are from species of less importance. The Pæony belongs to the natural order *Ranunculaceæ*—which fact alone is a warrant of its worth.

I have had much experience in ordering Pæonies from catalogue description, and it has been so expensive, and the result so vexatious, that I have about reached the conclusion that color-blindness, carelessness, or worse, are all that is needed to write a descriptive catalogue of them. I have rejected a good load of roots after giving them a trial; not that they were inferior in any way, but because I had others so near like them that I could not readily tell one from the other. The object of this article is to call the attention of amateurs to some varieties which are particularly fine, and which differ enough from each other to give satisfaction. The old Pæony, *officinalis*, is the parent of several varieties; of these *rubra* is a bright crimson and *grandiflora rosea* is of bright rose color. These sorts are old and grand, but whoever discards them on account of their being old will make a sad mistake. *P. officinalis tenuifolia fl. pl.* is a floral treasure, though I do not believe that it is a variety of *officinalis*, as it has all the traits of a distinct species. It blooms early, its flowers are double and of a bright scarlet-crimson color; even without flowers it is a beauty, on account of its delicate, fern-like foliage. Though this variety is perfectly hardy and easily grown, it does not seem to be very plenty.

P. paradoxa. The varieties in this division originated in Europe. The best is *Nemesis*.

The flowers are very numerous and full, but quite small and of a rich crimson color; all the varieties from *P. paradoxa* are crimson, of greater or less intensity.

P. moutan differs from all the others in having a shrubby top. There are no decided colors in this division, but a simple range of shades, from a dim white to a dim rose; some of the flowers are very good, and, as they are borne on bushes or trees from three to eight feet in height, they are quite conspicuous. The best white is *Bijou de Chusa*, and the best colored is *Gumppertii*, a bright rosy-pink. I say to the amateur, don't be in haste about getting Tree Pæonies, for the best are not yet in market.

For brilliancy, grace and fragrance the varieties from *P. Sinensis* must have the first place, as they may be had in a greater variety of shades and colors than those of any other class.

Bicolor is a handsome variety, outside rose-color and the center of a very good yellow. *Festiva* is pure white and very full.

P. fragrans, sometimes called the Rose Pæony, is one of the best. It is of a rose color and very sweet. *P. Humel* resembles it in color, but blooms much later, and is the latest of all I have tried. *Jules le Bonn* is a bright red, *Mrs. Dagg* is a very early variety, dwarf habit, flowers pure white dotted with red. *Perfecta*, outside petals a peculiar shade of pink, inside petals lively salmon—a beauty.

P. purpurea superba is of deep brilliant crimson; the plant a tall-grower and very showy.

After getting more kinds than I have mentioned, the distinctions will begin to disappear between those you have and those you get. In making a selection I would especially caution the amateur, when he takes up a descriptive catalogue of Pæonies, against making any great distinction between the colors which he finds mentioned as pink, rose and lilac. Whoever considers these colors as differing much from each other will discover the true distinction when he sees the plant in bloom. A very good way is to let some reliable grower make a selec-

tion for you, as such a person takes pains to propagate the best varieties largely, and it often happens that he has a surplus of the best.

In raising *Pæonies* from seed the seed should be soaked in water for a day or two, as it is very hard. About the 1st of March it should be sown in a brisk heat, and, when the weather becomes warm, the seedlings may be planted out, and will show their color the third year. They are usually increased by dividing the root, and though this is commonly done in the autumn, there is nothing gained by it; March or April is a better time, as the new root will have a chance to get hold of the soil before it is called upon to endure our northern winter. The soil in which they are planted should be dry, rich, and deeply dug. The tubers should be planted six inches deep.

P. moutan is propagated by grafting on the root of *P. Sinensis*, and by an amateur may be performed as follows: In the spring take some good, strong single roots from the clumps of some Chinese variety and plant them by themselves in a rich place, and grow them until September. Then cut a scion from *P. moutan*—it should be about three inches in length and contain a bud. Sharpen it and insert it firmly in the root which is used for the stock, and cover it with the earth that has been thrown out to make the experiment, and, if the work has been carefully done, the graft will take care of itself.—H. HUFTELEN, *LeRoy, N. Y.*

EARLY VEGETABLES.

As there are thousands of people who do not have the advantage of glass in the way of hot-beds and cold-frames, perhaps a few hints, giving them an idea how they may secure a supply of vegetables early, may be of use to them. Ordinarily farm and garden work does not begin, north of New York City, before April, and often the vegetable garden is neglected until the early farm work is finished. Nearly every year there is a pleasant spell during March or early in April, and with everything ready to take advantage thereof, operations may be commenced for a supply of very early vegetables. Select, if possible, a piece of rich soil, with a southern exposure, cart out and spread a good dressing of well-rotted stable manure, watch your opportunity, and when the "pleasant spell" arrives plow and harrow thoroughly. Have ready a supply of the following seeds, which, being hardy, or nearly so, may be sown as early as the land can be worked: English Beans, Beet, Carrot, Early Cabbage, Celery, Corn Salad, Cress, Endive, Kale, Kohl Rabi, Leek, Lettuce, Onion, Parsley, Parsnip, Peas,

Potatoes, Radish, Spinach and Early Turnips. By extremely early sowing some crops may be destroyed by subsequent frosts, but with a sheltered position the risk is not great, and a supply of early vegetables saved will more than compensate for all losses. Cold-frame Cabbage, Cauliflower and Lettuce plants may be set, when obtainable, to great advantage.

Flowers, described in seedsmen's catalogues as hardy and half-hardy, can be grown in greater perfection by very early sowing, and subsequently transplanting to the flower borders. Readers, try for early vegetables and flowers.—SUFFOLK.

ONION CULTURE.

If there is anything in vegetable growing that I especially and particularly like, it is the culture of the fragrant Onion. They look so curious just as they come out of the ground, all doubled up; then, when the white little bulblets appear, how clean and pretty they look, and afterwards, the swelling, round, fat bulbs on top of the ground, in rows, like soldiers, white, and red, and yellow, look almost as though they had been planted just as they are, instead of having grown, in a few months, from little black seeds, that look like grains of gunpowder. I like to eat as well as grow Onions, and commence in early spring, when they are no larger



WETHERSFIELD.

DANVERS YELLOW.

than quills, and continue to eat them once or twice a week until the next crop is ready in the following spring. Onions possess wonderful sanitary powers, and soldiers and sailors, who are deprived in a great measure of vegetables, crave them more than any others. They prove a sure preventive of scurvy, and almost a certain cure.

Unlike many crops, Onions can be grown on the same ground many years. My grandfather grew Onions in the same place for twenty years or more, and I never saw clearer or finer crops. By this course the soil had become very clean, almost entirely free from weeds, so that weeding was of little account, while on new places it is a matter of very serious importance. I do not know, but think the refuse left by a previous crop enriches the soil and makes it better for a second crop.

People need not look for a fortune in growing a few crops of Onions, but continued year after year, I do not know of any crop that will pay better. Sometimes prices range very low, and this has been the case for several years, but, taking the last past ten years, prices have averaged very good.

THE SEED AND SOWING.

The first, and a very important thing, is to procure good seed. If you grow it, select the very best formed bulbs, of good shape and thin necks. A thick-necked Onion, or a scallion, as such are called, will produce plenty of seed, but I would as soon sow thistle-seed as that grown from such bulbs. You can plant the bulbs for seed in the autumn, and cover them pretty deep. In the spring rake off a portion of the covering. Plant about five inches apart in rows, and the rows eighteen inches apart. If you do not grow your seed, obtain it from some one in whose honor you can trust, and when you find such a man, don't quibble about the price, and tell him that you can buy seed at some other place for less money. That is a poor compliment to pay any one who has taken great pains to procure a choice and true article. You ought to know that a poor scallion will



LARGE YELLOW.

grow about twice as much seed as a true, high-bred Onion.

Before the seed is purchased, however, the variety to be grown must be settled. Those who

have a damp, cold soil must grow the early kinds, and none are so good for such situations as the *Early Red* and *Yellow Danvers*. When true they are both almost round, one a bright, purplish-red, and the other a brownish-yellow. The good name of the Danvers has been badly abused, and all kinds of things sold under this title; but true and good Danvers is as round almost as an apple, with a neck not larger than a quill. Growers should plant nothing but the true, globe-formed kind. When the soil is warmer and earlier the *Wethersfield Red* is the best, being the most free cropper and the hardiest. The *White Globe* on a good, free soil is a valuable sort, but it stains easily, and unless it will bring a much higher price in the market, is hardly worthy of culture for a general crop. It is useless to try to grow Onions on a poor soil. It must be rich or the crop will be poor, and clean, or the hoeing will be excessive. If I take a new piece of land for Onions I like to break up an old sod and plant potatoes.

The next spring plow very early and manure on the surface. Onion roots do not go down far, so spread the manure on the surface. After a rich, clean soil and good seed, the next thing of importance is early planting. The Onion must make its principal growth in the early spring, before the hot weather commences, or the crop will not be good. Onions will not bulb well in hot weather. Do not, therefore,



POTATO ONION—HALF NATURAL SIZE.

lose a day in the spring, but get the ground ready as early as possible. Sow in rows, by a machine or by hand, making the rows twelve inches apart, and sowing three to four pounds of seed to the acre. If you have no drill, make shallow, broad drills with the hoe, an inch deep and three inches in breadth at the bottom. If the drills are made narrow at the bottom, triangle-shaped, all the seed will cluster together in the narrow space. A good man will care for three acres, if the soil is under fair cultivation, and I have a smart boy who pretty much cared for two acres last season.

CULTURE OF THE CROP.

As soon as the Onions can be seen, go to work at the weeds. Hoe, not particularly to lighten the ground, but to destroy the weeds, and disturb the roots of the Onion as little as possible. If the young plants should come very thick, thin them out so that they will stand an inch apart. Crowding will not injure them, as they have a faculty of getting out of each other's way, and sometimes on each other's backs. If the wide-bottom drill has been made and the seed scattered, they may not need much thinning.

As soon as the bulbs become half grown or more, some people recommend breaking down the tops to check the flow of sap, but, where pure seed is sown, I have never found any advantage in this plan, and I believe some injury.

I have raised three hundred bushels on an acre of ground, and I have grown 830 bushels,—the largest yield I ever had; but I have heard of a thousand bushels. As soon as the tops die

down, which will be towards the latter part of summer, pull the Onions from the rows and allow them to be exposed to the sun and air for several days to ripen. There will be no trouble in this if they are gathered before the cold weather of autumn. After ripening in this way, place them in heaps not more than eighteen inches in depth, and here they should remain a week to sweat. Then open the heaps, and after the moisture has evaporated they are ready to be barreled for sale, or stored for winter, after, of course, severing the tops.

My plan of wintering is this. I place them in several piles on a shed floor, or, rather, an old barn, now out of use, making the piles about eighteen inches in thickness, with alleys between them. When it begins to freeze pretty hard I throw over them old carpets, sheets, or anything of the kind, and this answers until the weather be-



TOP ONIONS—HALF NAT. SIZE.

comes very cold, when I throw over the whole straw in abundance—I guess, two feet deep. Here they remain until spring. Frost will not injure Onions in the least if they are allowed to thaw gradually.

POTATO ONIONS.

While at the north, and wherever good Onions can be grown from seed, I would, as a general rule, use nothing else. I have grown *Potato Onions*. These bear no seed of any consequence, but produce a cluster of small Onions at the root, numbering half-a-dozen, more or less. These small ones are planted in drills a foot or eighteen inches apart, and five or six inches in the rows. Each small Onion becomes a full-sized one by the middle of the summer. They are excellent for market-gardeners, as they make good bunching Onions. Most early Onions in our markets in June are of this sort.

To obtain the small Onions, plant the large bulbs in the same manner as above described, and before fall the clusters may be taken up, dried and sold for seed, or stored for spring planting. They are not good keepers, though I keep them very well in cool, airy drawers, or shallow bins. Freezing does not injure them, but if they freeze they should be kept frozen as much as possible, and thaw gradually, in the manner I have recommended for other kinds, by covering with straw. For the south this kind is valuable and sure to produce a crop. A good dressing of well-rotted manure in the

trenches will well pay for the cost. The seed is pretty expensive, as may be well imagined, when it is understood that two ounces of seed will plant as much ground as a bushel of the Potato Onion sets.

TOP ONIONS.

The Onion assumes a great many and very peculiar forms. The Top Onion is certainly a very singular production, and were it not so



TOP ONION.

common, it would attract attention on this account. It bears no seed, and does not increase under ground, like the Potato Onion, but throws up a stem, just as if going to seed, and then, instead of forming flowers, and afterwards seed, a cluster of small Onions are formed where the



CATAWISSA TOP ONION.

seed should be. These clusters of small Onions are gathered and sold for seed, or kept over the winter, the same as the Potato Onions. The

large ones form the clusters, and the small ones produce large bulbs with one season's growth. The culture is the same as for the Potato Onions. They do not, with me, produce large Onions in the summer as early as the under-ground, or Potato kind.

There is a variety of the Top Onion called the Catawissa, but I have not had much experience with it. After the young Onions are formed on the top of the stalks they grow and send out a top, on which is produced another small Onion. It is said, too, that they partake somewhat of the nature of both the Top and Potato Onion, and increase under ground, like the latter.

ONION SETS.

Perhaps I should say something about sets before concluding. In warm countries, where it is difficult to grow a crop from seed, it is the custom to plant sets. These are small Onions, as large as Peas, and they are produced by sowing seed very thickly in broad drills. When of sufficient size, say in July, they are gathered, dried, and saved for seed, and are planted in



SETS—NATURAL SIZE.

the spring, like Potato or Top Onions, each little Onion producing a fine bulb. If a little too large they go to seed, and are not so good; but this is remedied somewhat by cutting out the seed stalk whenever it shows. It is best, however, to obtain small sets.

INSECT ENEMY.

I have cultivated the Onion forty years, and until ten years ago, I thought this vegetable entirely free from insect enemies, that is, in this country. I did know that in England and other parts of Europe they had a troublesome fly fond of Onions, and called the Onion Fly, generally, but known by those who study insects as *Anthomyia Ceparum*, whatever that may mean. Several years ago I noticed that my Onions looked sickly and drooping, early in June, and after searching for the cause, found maggots at work in the young bulbs. Since then I have been more or less troubled with this Onion destroyer. The trouble is, I suppose, that, with our Onion seed, or something else, we have imported a foreigner, and he is becoming naturalized too fast for our good. The fly, the originator of the mischief, makes its appearance early in the spring, and the female deposits its eggs at the bottom of the stem, near the surface of the ground. In three or four days the egg hatches out a little worm that eats its way down into the bulb, which soon turns yellow, and dies.

I believe the depredations of this insect will not become very serious—I certainly hope so. They seem to prefer white Onions to the red,



and shallots to either. I have had whole plantations of the latter entirely destroyed. A dressing of charcoal and lime is thought to be the best preventive.—TERRA.

The interesting article of our correspondent, which seems to cover the whole subject of Onion culture, desiring to make as useful as possible, we have added such illustrations as we thought would best accomplish this object.

AGROSTEMMA.

I wish to call the attention of the readers of our favorite MAGAZINE to a very useful annual, and one I do not observe in any garden in my neighborhood, but my own, and I have only recently learned its merits. It will never take



the place of our Asters and Stocks and Balsams, and such popular flowers, and it never should, yet it fills a place that they cannot. The flowers are the size of a single Pink, and of the same form, while its colors are of the different

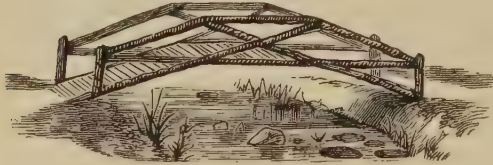
shades of red, from pink to crimson.

The plant grows from twelve to fifteen inches in height and bears a great many flowers, and for a long time, and comparatively few leaves, so that it is excellent for a mass or bed, and, at a distance, would be taken for Phlox. It also makes a good border. I have always sown the seed in the open ground, in a nicely prepared bed, and never failed to have a good crop of young plants, which I have found to be useful in a great many ways and places.—AN OLD AMATEUR.



ENGLISH PARKS AND GARDENS.

The English nobility and gentry are very lavish in the construction and adornment of private parks; and by this we do not mean the fixing up of two or three acres merely—for such grounds often cover hundreds of acres, embracing woodland, shrubbery, and flower-gardens, with their graperies, greenhouses, terrace walks, summer-houses, lake, rustic seats and

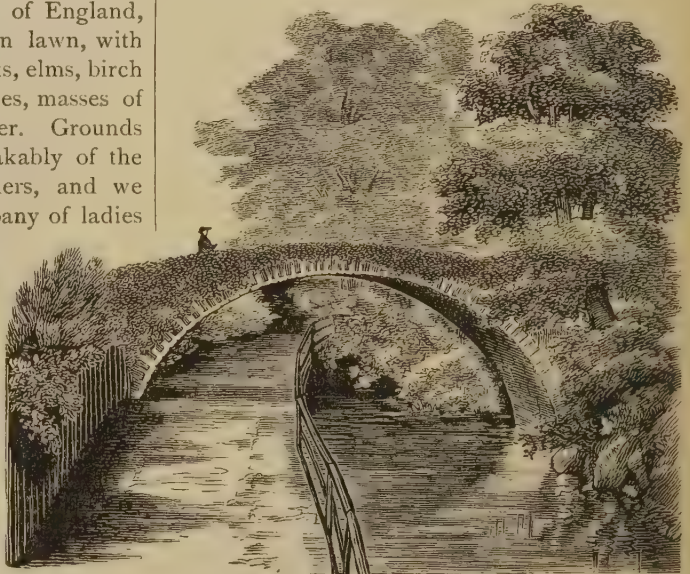


bridges; in short, whatever skill, taste and means may dictate as a thing of beauty to the proprietor. And, in taking a cursory walk through several of these park lands, it is wonderful to observe the diversity of taste in the laying out of the various grounds, clearly showing, we think, the proclivities of the master mind. At Ravensworth, Warkworth, and other castelated residences in the north of England, there are immense tracts of green lawn, with here and there groups of large oaks, elms, birch and maples, and, in suitable places, masses of low shrubbery, ferns and heather. Grounds disposed in this way told unmistakably of the sporting propensities of the owners, and we were not surprised to meet a company of ladies and gentlemen on horseback, the ladies in long riding-habits of dark green, the gentlemen in the customary suit—a black velvet jockey-cap, scarlet coat, white buckskin pants and top-boots—the whole accompanied with a splendid pack of hounds.

Other proprietors are given to the sentimental, and in their grounds we may expect to meet with shady groves, winding paths, cascades, rustic bridges, grottoes with quaint-looking seats, gnarled old trees heavily festooned with ivy, and projecting cliffs, in the

crevices of which strange plants have made themselves a home. Such a park we had the pleasure of visiting in Gateshead-on-Tyne. But it is a private park no longer, having passed into the hands of the city authorities, and this fact is very apparent from the additions already made, for, although they are very choice of themselves, they are altogether out of keeping with the original place. The principal feature added by way of improvement is a straight path, fifty feet wide and about a mile long; on one side the land declines to lower ground, used as pasture-land, and on the other side the ground rises in a gentle slope, and is laid out the entire length in a ribbon-bed pattern. It is certainly a magnificent sight, and must contain several thousand plants. The usual accompaniments are being added, such as a music pavillion, a mystic maze, statuesque fountains, duck pond, light iron inclosures for foreign animals and birds, an observatory, and such other things as may be deemed interesting and appropriate.

Again, we visited some grounds that had no



poetry in them whatever; evidently the owner not being given to sighing and sentimentalism, nor to the ærial flights of high art. No such



fantasies were to be seen, no such demonstrations of weakness! Clearly, in this case, the master mind is of a strictly mathematical turn; there are flower-beds, plenty of them, laid out on the square; lots of shrubbery, every alternate one clipped to a uniform cylinder, exact to an inch; a liberal display of white statuary, standing just so high, and all at a uniform distance apart, the whole ground evidently laid out with compass and square to a mathematical demonstration. And yet there is considerable beauty in this Italian style of gardening, in

flower-beds, or all combined, we are taught the one unvarying truth, that man is known by his works, as a tree is known by its fruit.—WALTON.

Our correspondent has given us sketches of what he saw of the parks in the north of England, with views of bridges and roadways, and a particularly interesting, and what may be called a representative view of the Italian, or artificial, style of planting and trimming. A few such places are well enough. We like to look at one occasionally, but one soon tires of such



spite of its severe chiseling, and is, after all, only another evidence of the endless diversity of mind, and doubtless well adapted to meet the ideal and satisfy the taste of those who are similarly inclined.

To me these various methods of utilizing the grounds, brought their own peculiar lessons, and whether woodland, shrubbery, lawn or

absurdities. As a matter of relief we give a view of a park in the south of England, and the Queen's sea-side home, Osborne House, as seen from the beautiful waters of the Solent. It was with this view before him that DR. WATTS wrote

"Sweet fields beyond the swelling flood
Stand dress'd in living green."

ENGLISH ICE AND ICE HOUSES.

When in England we took very little fancy to the ice of the country. It was by no means a luxury, though we did see some in London, from Wenham Lake, in Wales, that was tolerably free from extraneous matter, and several inches in thickness. In the January number of the *Florist and Pomologist*, a correspondent gives directions for filling ice houses. They are so reasonable that we know our readers will be pleased, if not benefited, by their perusal:

"The best time to commence filling the ice house is after a few days' hard frost, when the ice has become of considerable thickness. At the most convenient side of the pond for carting away the ice, a substantial platform, composed of stout planks, should be laid, and on this the ice should be thrown out, so that it can be shoveled up in a clean state. When, as I have sometimes seen, the ice is drawn out of a pond on all sides, and is trampled about where the cart wheels have created a slough of despond, it becomes soiled by being mixed with a considerable quantity of mud. Such ice, when required for use, is found to be in a filthy state, so that the butler and M. le Chef are glad when there is no frost, so that they may obtain a supply of "Wenham" from the dealer, in a cleaner condition. Moreover, when there is a quantity of dirt thus mixed with the ice, the drain is likely to get choked up, and ice will not keep well if the thawed water cannot freely escape (though air must not be permitted ingress through the drain). Ice should always be broken up as finely as possible, as it then sets more firmly together, and keeps longer than if stored in a lumpy state. The work should be done with method, and as much despatch as possible, as if a thaw sets in, and the house cannot be filled at once, waste is likely to arise from the house being reopened to fill it up. After the house is filled, a temporary supply may be stacked behind a north wall, or in some other shady place, and covered with sawdust and boughs to keep the air from it. This will keep for two months at least, and come in well for present use, so as to avoid opening the house for as long a time as possible."

What can be more reasonable than the remark that the best time to commence filling an ice house is "after a few days' hard frost;" and then how true it is that ice "mixed up with a considerable quantity of mud" must be "in a filthy state," and it must be a serious inconvenience when the mud is so abundantly mixed with the ice as to stop the drains. While agreeing with the author thus far, we must object, however, to breaking up the ice as fine as possible for the purpose of keeping, as we

think it would keep better in a "lumpy state," and the lumps about two feet square, as we have it now, and as clear as crystal. However, we are not much interested, for, after this revelation, we don't intend to call for ice-water when we visit England again.

LETTER FROM NEW ZEALAND.

MR. VICK:—Having received some numbers of your *FLORAL GUIDE*, through a relative, which I have perused with much pleasure, let me, by way of introduction, send you some seeds of the Karaka, *Corynocarpus laevigata*, a tree which grows abundantly in this quarter, in hopes that you may succeed in getting some of them to grow. It has a most refreshing-looking foliage, resembling the Laurel, and bears clusters of orange-colored fruit, something like a plum, but scarcely fit to eat. The appearance of the trees when laden with fruit is very beautiful. The leaves are eagerly devoured by cattle. You must use your own discretion as to planting the seeds; only let me hear that you have succeeded in getting a few to grow and I shall be happy to forward more.—J. B. L., *New Plymouth, New Zealand*.

The tree described is a member of the Cashew family or Anacardiaceæ, of which our most familiar example is the Sumac. Some tropical species of the family bear edible fruits. The seeds were duly received and for which our correspondent will please accept thanks.

THE WINTER IN ENGLAND.

THEODORE HILLS, Esq., of Derby, England, wrote us on the 8th of February, "Our winter seems to be breaking up. The frost is gradually going out of the ground. It has been like iron for ten weeks. This afternoon I have been looking over my plants in a cold greenhouse, and sorting the living from the dead. Although we have had a long continuance of cold weather it has not been especially severe in my greenhouse, the lowest temperature being twenty degrees of frost. Geraniums have all died; also, Lobelia, Heliotrope and Verbena. During this frost, although I have never had a fire, I am certainly surprised that none of my delicate Tea Roses have ever dropped their foliage, and now are ready to go ahead on the first genial day. Calceolarias we keep in cold-frames, but many about here seem to have lost most of them."

LIBERIA COFFEE.—This coffee is said to be of a very superior species, and the demand for seed and plants for exportation to Brazil, Ceylon and Java has been so great that a heavy duty has been placed upon exports by the legislature, now in session at Monrovia. The English nurserymen are raising the plants in large quantities, and it would seem that American nurserymen might have a share in this trade.



COUNTY FAIRS.—A NEW DEPARTURE.

We learn that Union County, Ohio, proposes to recognize the subject of education by its County Fair, and to offer diplomas or premiums to pupils for meritorious examinations in different branches of study, and to schools for the most perfect attendance and punctuality and for the largest number of visits from parents and school officers. It also offers diplomas or premiums to teachers for the best performance of their duties in various ways; such as the keeping of their school records, the best system of school exercises, and the best methods of teaching the various branches. In the department of science they offer a diploma or premium for the best collection of *Geological specimens, Grasses, Pressed Flowers, Indian Relics, and Zoological specimens, including both stuffed specimens and those preserved in alcohol.* The examinations for awards by competent committees are to take place publicly, at stated hours on two days of the fair.

We regard this movement as one of significant importance. It indicates the high place that the idea of popular education holds in the public mind, and how we may expect this idea to be fostered in the future. Who shall say how powerfully this agency may develop all educational affairs, and awaken renewed interest in pupils, teachers, parents and the general public? As a nation we have never perceived more clearly than we do at the present time, the necessity of the universal education of the people, and a county Agricultural society can have no higher aim than to assist in this movement, and that too legitimately: for the best results of agricultural pursuits can only be obtained under the direction of superior intelligence. If our county societies generally will follow the example here offered them we believe they will find that they have renewed their youth, and will perceive that there is a useful work for them to do. The objection of "all horse" that now holds against them will be removed, and they will receive the co-operation of the best elements of society.

It occurs to us that the stimulus that may result from this action may be too much for some pupils, and cause them to engage too earnestly in mental pursuits at the expense of their physical powers, for we do not consider mental or moral development only worthy of our regard. What is wanted is a system that shall educate and develop the physical, as well as the higher faculties; we want a race of men and women sound and strong in every bodily function, and their mental faculties trained to serve them in the best manner in all their domestic, social and political relations.

For those pupils that become interested in scientific subjects the system is apparently harmonious, and will, we believe, produce excellent results; even if it should have the effect to awaken an interest in study so great as to diminish the youthful desire of play, yet the frequent strolls and tramps necessary for the collection of relics, rocks, woods, plants, insects, birds and animals will be conducive to health, and prevent any ill effects of confinement to study. This department we consider worthy of special attention on account of its two-fold value for mental and physical improvement.

In order to make this system of educational encouragement more complete there should be added a set of diplomas for the best physically developed boys and girls of certain ages in each school, and for the greatest number of physically developed children in any school in the county. In this way the subject of hygiene would receive the attention from teachers, pupils and parents that its importance and necessity demands, and the matters of diet, sleep, clothing, exercise, cleanliness and ventilation would each be more intelligently and carefully considered than at present. With the attention of the community turned in this direction, we are confident that the pleasant and fascinating pursuit of gardening will be held in high esteem, as promotive not only of the most healthful exercise, but conducive to the best attainments in several branches of natural science. IN

this movement, it must be that there will be enlisted the sympathy of parents and children, of teachers, of the clergy, of the medical faculty, of temperance and health reformers, and of every lover of his fellow kind.

HARDINESS OF ORNAMENTAL PLANTS.

Sir:—I hope I shall not be considered as one of the fault finders alluded to in your January number, but simply as pointing out what I consider to be a great defect in the multitude of plant catalogues which the public eagerly peruse at the commencement of each year. I refer to the want of exact information as to the constitution of plants, of shrubs, and herbaceous perennials more particularly, as affected by low degrees of temperature. Take *Bignonia radicans*, or Trumpet Creeper, as one instance. We are repeatedly told by catalogue publishers that this plant is "quite hardy." Now, if "quite hardy" means perfectly hardy, then the assertion is quite wrong. This frequently winter-kills in the neighborhood of Detroit, and would not live an hour in the blast of a Minnesota January. The *Althæa*, or Rose of Sharon, is another of those perfectly hardy plants, which it is simply idiotic in a man to plant where the mercury sinks a few degrees below zero. People are misled, not exactly by wilful misrepresentations, but by the suppression of the whole truth, and often imagine therefore, that the saying, *ex uno discite omnes*, is not inapplicable. Would it not be very easy to indicate by a figure the temperature which each plant or shrub will bear? The want of such a system in advertising plants and shrubs, as I said before, is much felt, and always leads to the disappointment, and often to the discouragement of ignorant, yet enthusiastic amateurs.—K. O'H., Chatham, Ont.

The want of definite information about the hardiness of plants of all kinds, and especially of shrubs and trees, in different localities, and which is so well described by our correspondent, is one that is common to all purchasers and dealers in trees. Every person is now obliged to depend upon the knowledge he has acquired by experience in relation to this subject. Nurserymen and plant dealers are receiving orders constantly, from various sections, for ornamental plants, of which the kinds are left to their selection; and the inability to skilfully and intelligently fill such orders is a skeleton in the closet to many a conscientious and sensitive soul.

As for fruit trees, we can, as a sailor would say, "box the compass;" for the American Pomological Society has so faithfully, intelligently and earnestly prosecuted its investigations and collected information relating to the comparative value of the different kinds of fruits for the various States and Territories, that it would be inexcusable ignorance, or something worse, for one now to make an improper selection of fruit trees for any locality in the country. What has been done in reference to fruit trees now needs to be done for all perennial plants cultivated for ornament. This is properly the work of some society and would be a praiseworthy undertaking for any horticultural or botanical association, but we are sorry

to say we have no organization that will be likely to attempt the work.

Our correspondent falls into error in supposing that the adaptability of plants for various localities can be determined by the register of the thermometer. The examples of the *Althæa* and the *Bignonia* are good illustrations of what we wish to point out; which is, that the hardiness of trees and shrubs and other plants in any given locality depends, not on the minimum temperature alone, but upon that in connection with the steadiness or the variability of the temperature, with the humidity of the atmosphere, especially as pertains to the presence or absence of clouds, and upon the amount and duration of the snow-fall. Both the *Bignonia* and the *Althæa* we consider hardy here, as they never suffer in this locality more than the nipping of the ends of the youngest and most immature shoots, and yet zero is a point mercury loves to toy about in this locality, and often steps down ten paces lower, and we have caught him sometimes counting twenty and more below. At these times of extremely low temperature we usually have plenty of snow and a thick covering of clouds, and these conditions, no doubt, are the cause of our immunity from harm. The same low temperature with a cloudless sky and a bare earth-surface would be terrible in its effects upon vegetation. Minnesota and other parts of the Northwest have good snowfalls, but usually cloudless skies; hence the tenderness there of what we consider, here, hardy shrubs and trees. In Manitoba, where the temperature frequently falls as low as twenty to thirty degrees below zero, such tender biennials as turnips and beets are quite hardy, and potatoes may be left in the ground through the winter. This is because the snows come so early in the fall that the ground does not have time to freeze, and it remains on all winter, protecting what we consider tender plants from the severity of almost arctic cold.

The only way we can have the information needed on this subject is by means of reliable reports from competent persons in the various sections of the country; there should be at least two reports from each State, and from all the larger States four or more, in order that results of some accuracy may be arrived at. With the co-operation of some of our friends in the work we shall endeavor during the present year to collect what facts we can on this subject, and in due time lay them before our readers. It is too much to expect of the plant dealer to give this information in his catalogue in connection with each plant; as we have shown, the subject is too complicated. The plant dealer looks

at his stock from his own standpoint, and considers it hardy or tender, according as it is one or the other in his own locality. The buyer must take the risk of hardiness for himself, and we will do what we can to enable him to act intelligently in relation to this subject.

PAMPAS GRASS.

MR. JAMES VICK:—Your correspondent, "W," in the February number of your MAGAZINE, asks, "are there several kinds of Pampas Grass?" His, with a narrow, white strip on the upper surface of the leaves, is Pampas Grass, but there are two kinds, male and female. The former, only, bearing desirable plumes, and the latter, which comprises two-thirds of those sold by florists, answer "W's" description, and are of no account so far as bearing plumes is concerned. There seems to be no way of determining the one from the other, except by growing the plumes and discarding the worthless plants, and multiplying the good ones by division.—I, *Bristol, Conn.*

With the difference, which is, perhaps unintentional, that our correspondent refers the desirable plumes to the male plants instead of the female, or pistillate plants, which he should, substantially the same statements here made are given in the account of this grass in *Appleton's Cyclopaedia*, we suppose, by Professor THURBER; and, from our best information and belief, the facts are fairly given. More than twenty-five years ago Dr. LINDLEY pointed out the difference in the character of this plant and that of the true *Gynierium*, and came to the conclusion that a new genus should be established on purpose for it. The true *Gynierium* are monœcious, bearing staminate and pistillate flowers separately in the same panicle, while the Pampas Grass has its pistillate flowers on one plant and its staminate ones on another. At that time it had been placed by different botanists in two genera, some considering it an *Arundo* and some a *Gynierium*. By advice of Dr. Lindley it was left provisionally in the genus *Gynierium* rather than to consider it an *Arundo*, from which it differed more than from a *Gynierium*. In our best botanical works it is classed among the *Gynieriums*; but, evidently, if it is to be retained there, the characteristics of this genus must be modified so as to include this species. Probably Dr. GRAY will see that the subject is fully cleared up in the new editions of his *School and Field Book*.

As a rule, florists propagate this plant by division of the roots of pistillate plants. The finest plumes are raised in California, where, evidently, the best conditions conspire for their most perfect development.

We are inclined to think that the plants described by our correspondent in the February number were not the Pampas Grass, but the *Erianthus*.

STEPHANOTIS FLORIBUNDA.

Please tell me something about the *Stephanotis*. Is it a plant that will afford much satisfaction? I see it advertised in some of the catalogues, and I have used some of the perfume.—MRS. W. L. B., *Sunnyside*.

Stephanotis floribunda is one of the most desirable of climbers for the hot-house, bearing a profusion of showy, fragrant, white, tubulous flowers, an inch and a half in diameter. It is



a strong grower and a very satisfactory plant to raise. The flowers are borne in umbels in the axils of the leaves, and have the odor of the Tuberose. We doubt if perfumers obtain the odor from these flowers. They have demonstrated very cleverly, by their chemical combinations, that "a Rose by any other name will smell as sweet;" but we observe that they are always very careful to retain the good name. About equal parts of good loam, leaf-mold and sand make a suitable soil for it. If bedded out in the house it will grow much stronger than in a pot. During the summer, its growing season, it should have plenty of water and be freely exposed to the light; in winter very little water is needed. This plant is quite liable to the attack of mealy bug, and it should, therefore, be trained on wires, so that all parts of the vine may be easily accessible. Frequent and strong syringing of the foliage is the best preventive of mealy bug; the insect is very apt to gather about in the axils of the leaves, and these places must be watched and the enemy, if discovered, dislodged with a small brush.

Asters Dying.—Last year I lost more than half my Asters. I found hundreds of little shining insects feeding on the roots. What were they, and how can I kill or drive them away?—D. J.

The shining insects were doubtless the *Blue Aphis*, that feeds on the roots of Asters, and often on those of Petunias and Verbenas. Give the earth around the plants a good soaking with strong tobacco water. It will not harm the plants, and will kill the insects. Fifteen years ago we were much troubled with this aphis, but since that time have not seen the insect, although during these years we have grown more than a hundred acres of Asters.

RENOVATING AN OLD LAWN.

JAMES VICK:—I have one of the finest lawns in the beautiful city of La Porte, which I have cared for with great pride for nearly twenty years. The past season the grass, though often cut with a lawn mower, has grown thin, and in spite of all my efforts in some places it has actually become bare. I want to renew it the coming spring. The lawn contains about one-sixth of an acre of ground, and on two sides of it are rows of maple trees and quite a number inside—enough, with some evergreens, to make a fine shade, but not sufficient to kill the grass. Now, what course would you recommend as best to pursue in order to make the lawn perfect in this respect? Had I better sow seed on top of the ground and rake it in, or spade it up before I do it? What kind of seed would you advise me to get? In fact, I would like your advice in regard to the matter finally, fully and altogether, as I want to be ready for action as soon as necessary.—C. G. P., *La Porte, Ind.*

Two courses may be pursued with your lawn. If it is barren only in patches, and you have reason to think that it will not all become so, you can have made by the blacksmith a strong iron rake with short but sharp teeth with cutting edges, and with this implement the bare spots can be worked over. It will be well, also, to go over the whole lawn in this way and scarify it. This work should be done as early in the spring as possible after the frost is out of the ground and the soil sufficiently dry. After this a liberal dressing of lime and wood ashes should be given all over, and on the bare spots it should be worked in with the rake. The barren surface may then be seeded.

If you should consider it probable from appearances that the whole lawn may fail, it will be best to dig it all over, giving a deep spading, and then top-dress it with a mixture of sharp sand, lime, and ashes, and soot if you can get it. The lime can be used at the rate of twenty bushels to the acre, and the same amount of unleached ashes, or double the amount if they are leached. This compost should be spread evenly over the surface and raked in. After a few days rake over the surface again, making it even, fine and smooth, and seed it down with lawn grass seed, at the rate of four bushels to the acre. We have some suspicion that there is too much shade on your place; if you have the same mind it will be best to give the lawn the benefit of the doubt and make some thinning. Probably this can be done without injury, and perhaps with decided advantage to the appearance of the place.

THE CALLA.

I have two Callas in flower. One of them is in water and has a green flower, and the other is in soil and has a white flower. What is the cause of this?—J. G. W., *Shaw's Landing, Pa.*

The green spathe is a case of partial reversion to the original leaf form. As our correspondent is no doubt aware, the large white envelope, commonly called the flower of the Calla, is not

the flower at all, but is a peculiar form of a bract. Now, a bract, usually, is green and leafy—it is, in fact, a leaf from which a flower or a floral axis arises, and acquires its name from its position. In some cases these bracts take peculiar forms and colors like flowers. In the *Poinsettia pulcherrima* the bracts, which are of a vivid crimson, are what the plant is esteemed for, as the flowers are quite insignificant. In the *Calla* the bract changes to a flower-like form and becomes white. The real flowers of the *Calla* are very numerous, and are situated upon and around the central column called the spadix. Any part of a plant may revert to a form from which it has been originally derived—pistils, stamens and petals may change to leaves, or stamens to petals, or petals to sepals—a leaf may change to a bundle of fibres like a stem. To fully explain and illustrate this subject would require much space, but we trust enough has been said to make the point clear, or to interest sufficiently to incite to further investigation.

GRASS FOR CEMETERY.

What kind of Grass seed would be suitable for a lot in the cemetery, and how much would it take to sow a lot 8x12 feet, and, also, how much would it cost?—MRS. T. B. P., *Lyme, N. H.*

Probably in the whole list of grasses, when the merits and demerits of them all are considered, there is none that can be mentioned so well adapted to cemetery purposes as the annual Spear grass, *Poa annua*. It grows commonly in the northern and eastern States, and forms a large part of the sward of the pastures. One of its particular advantages in a cemetery is its short, low growth, which requires it to be mown but seldom, and if, by necessity or negligence, this operation is long delayed, the place does not become absolutely unsightly, as would be the case with a rank, strong-growing grass. Four ounces of seed would be sufficient for the space named. For general lawn purposes we have no other grass equal to the Kentucky Blue Grass. It requires frequent cutting in the growing season, from April to July, and we cannot imagine a fine lawn that does not receive this labor.

Campanula.—Will "Cordelia" please give some further information in regard to the *Campanula* pictured in the February number? I much admire it and would like to know something more about it. Is it as desirable for out door as pot culture, and how long does it remain in bloom?

Campanula pyramidalis is a good hardy plant for the garden, but not so desirable as *C. grandiflora*, which is one of the best of the family. The flowers are large, open and star-shaped in appearance. *C. carpathica* is also a fine plant, with smaller flower. Neither of these bloom the first season.

DOUBLE PORTULACA.

My soil is rich and mellow, and I have a great many flowers and succeed with almost everything, but the Portulaca. On poorer soils, where people do not take so much care of their flowers as I do, the Portulaca prospers. I never had very good success with this flower, but the single ones did much better than the double. Perhaps I should state that my garden ground is a rich, black mold, thought to have been once a good deal overflowed by the river, which is now confined to its banks a short distance away.—M., on the Mohawk, N. Y.

The Portulaca has doubtless lost some of its vigor in becoming double, like most flowers. There may be less vitality in the seeds, less



power to endure adverse circumstances. The flowers of double plants certainly do not bear one-tenth as much seed as the single. The Portulaca, however, always flourishes best in a light, sandy soil; a dark, mucky soil, such as described by our correspondent, is the least suited of all. In a light soil it almost becomes a weed, and seed scattered comes up freely, even in the walks. The double flowers are so perfectly double, so large and so beautiful, that



we can afford to give them a little care. When the sun is bright we have no finer beds in our garden than those filled with this flower.

We give an engraving taken last summer from a flower, showing its natural size and appearance, all but the color; also a plant, which is, of course, very much reduced. We sow the seed in a seed bed, and this we are particular to have quite sandy, and transplant the young

plants about the first of June. They will then flourish in almost any fair garden soil. We suggest that our correspondent obtain a little earth from some high and light ground, for a seed bed, and then we think there will be no difficulty in obtaining flowers in her garden.

TO DESTROY PLANT INSECTS.

I have been unable to flower my Pæonies since I first procured them three years ago, owing to the ravages of a large black ant which attacks the flower buds. I have found no effective remedy against them. I have tried tobacco decoctions and fumigating, Insect Powders, Hellebore, Paris Green, Lime and Whale Oil Soap, but to no effect. They will eat the flower bud and drop dead. What remedy can you recommend for this pest? —NELSON, Pembina, Dakota Ter.

A very successful way of destroying the ants is by taking a vial or saucer, nearly filled with sweet or olive oil, and sinking it in the ground near the ant hill or their run-way, so that the rim is about even with the surface of the soil. The ants are very fond of the oil and will seek it, but it is sure death to them.

In former numbers we have recommended, from time to time, the use of coal oil diluted in water to destroy insects. This substance appears to be very destructive to insect life, and its use for this purpose is rapidly extending. A table spoonful to two gallons of water is the ordinary mixture, and it is said will kill mealy bug and all the insects that ordinarily infest plants. The oil is sometimes used with a soap suds of whale-oil soap. The best method to apply it is with a syringe.

LIMA BEANS.

I should like a little information with regard to the cultivation of Lima Beans. First of all will they succeed as a crop here in Orleans County? How far apart each way should they be planted? Some tell me that they must be picked off from the vines just as fast as they get ripe through the season. Is this so? Where can I get the seed, and how much do I want per acre? What kind would you advise me to plant? I see that in the New York market they are quoted as Lima and Potato Limas.—C. R. B., Lyndonville, N. Y.

You can grow the Lima Bean in your County, but not without some care, as it is tender and likes a little warmer climate. It is useless to plant this bean until the weather is warm, quite the middle of May in this climate. Make hills eighteen inches in diameter, raised a little, and four feet apart. In each hill plant five or six beans with the eyes down; about twelve quarts will plant an acre. Place poles for their support. In garden culture we always cut off the vines as soon as they reach the tops of the poles. If for use shelled green, they must be picked as soon as the beans are full-grown and tender; if for seed they may remain until the crop is ripe. All seedsmen keep the seed. We know nothing of Potato Limas. That must be a fancy name.

TRITELEIA LAXA.

MR. J. VICK :—Please give your readers some notice in the MAGAZINE, if you deem the plant worthy, of the California bulb, *Triteleia laxa*. Can the bulbs be purchased? Are they of but one color? Can they be raised successfully through the summer? Are the flowers fragrant? Can you explain the fact that few of the beautiful wild flowers of California are fragrant?—M. R. S., *Marlboro, Mass.*

Triteleia laxa is a bulbous perennial, a native of California. It grows about a foot in height and bears an umbel of dark-blue flowers. It is a liliaceous plant, belonging to the Hemerocallis or Day Lily section; the perianth is tubular, with a six-parted limb. It flowers in June, or early in July. How hardy it may be, or how worthy of cultivation in this climate, we do not know. If any of our readers have had experience with it we should be pleased to hear from them. We know it is cultivated to some extent in England, but, between the humid skies and mild winters of England and our own bright, summer sun and zero frosts, there is a great difference. But few of the native plants of California can be successfully cultivated in the open air east of the Rocky Mountains; it is difficult even to introduce them into cultivation in many parts of the Pacific Coast. In the greenhouse, where all the needed conditions of the plant can be obtained, the *Triteleia* has proved very satisfactory.

We can no more explain why so few of the beautiful wild flowers of California are fragrant than why so few, comparatively, of all flowers are fragrant. The facts are, that some of the most beautiful flowers are scentless, and that some of the most fragrant have scarcely any beauty, while those that combine grace of form, bright colors and fragrance are the select few of the vegetable kingdom.

THE AGERATUM.

In your frequent allusions to this plant, in the MAGAZINE, I notice it is always spoken of as an annual. Is it strictly so? There is a wild perennial variety of it here, which cannot be distinguished from the *Ageratum Mexicanum*, except that it is a shade darker blue. It comes from a creeping root-stock, and spreads out and makes immense beds in the "made lands" along the creek bottoms. It flowers very late into the fall, but I have failed to coax it into winter blooming. Do you think it the same as cultivated as an annual?—D. H., *Sherman, Texas.*

Ageratum conspicuum and *A. caelestinum* are annuals, while *A. Mexicanum*, or *conyzoides*, is a biennial, producing its flowers, however, the first year. What species is referred to by our correspondent we do not know; probably some of our botanical friends in Texas can give the information; but if they should not, and D. H. will send us a good pressed specimen, we will endeavor to identify it.

TUBEROSE WITH BROKEN STEM.

MR. VICK :—After so long a time I will tell you about my Tuberose. I planted it quite early last spring, and plunged the pot in the hot-bed. It came up nicely, and when about an inch high, the crown was accidentally broken off close to the earth. I felt very badly about it, but very soon there appeared two shoots, one on each side where it was broken. They grew very rapidly, and were exactly of a height for a long time, when one grew a little taller than the other. They both sent up flower stalks, and bore a profusion of beautiful flowers. It was a curiosity to all who saw it, and my pride and pet. Do you think if we should break off the first crown we would always obtain a like result?—Mrs. GEO. O. H., *Winnebago City, Minn.*

It is not probable that such a result would always, or even usually, follow the like treatment. The bulb in this case was, no doubt, a very strong one, and, if it had not been broken, the spikes would have been very large and full. The practice is not to be recommended, but the case indicates the latent energy of plant life, and shows how well we may indulge hope when similar circumstances of adversity attend our floral pets.

ABUTILON WITH SCALE INSECT.

MR. VICK :—Can you or any of your readers give me any hints as to the care of the Abutilon? One that I have this winter has been very troublesome from its forming a sort of scab on the stem and branches. Is this a vegetable or animal production, and how can it be destroyed. I have removed them by the use of Castile soap and water, and again by tobacco water, but unless the plant is closely watched they soon form again.—G. W. H., *Charlotte Town, P. E. Island.*

This plant is infested with a scale insect (*Coccus*) and the treatment of it has been correct, only, possibly, not thorough enough. By following up the same course and repeating the washing, adding the use of an old tooth brush to give a good scrubbing, our friend will at last triumph over his insect foes. The presence of the insect indicates too dry an atmosphere; this should be corrected.

DOUBLE PETUNIA SEED.

MR. VICK :—I save my own Petunia Seed and from the choicest flowers, that is, when I can find any. I have good success with the striped or blotched kinds, but do not get any seeds from the double, or the large *grandiflora* sorts. Please tell me how I can grow the seed, for I like to save my own seed for myself and my friends, when I can.—LADY AMATEUR.

In the May number, which will be quite early enough, we will endeavor to explain why our correspondent fails to obtain seed, and perhaps give a colored plate of Petunias.

A WONDERFUL POSTMASTER.—The Postmaster at St. Louis is unusually stupid, or we must write an exceedingly nice hand, for he charged one of the editors letter postage on a package because it contained our name printed in *Script*. This is a conundrum.

NIGHT-BLOOMING CEREUS.

From the number of inquiries received we infer that many of our readers are interested in the Night-blooming Cereus, and these will probably appreciate the engraving of this flower here presented. The cultivation of this plant in our climate, except in the greenhouse or conservatory, is exceedingly rare and seldom attempted. We have had but little experience with it except in the greenhouse, but one of our correspondents, Mrs. JABEZ MEAD, of Connecticut, has been very successful with it as a house plant. Following we give an extract from her letter: "It is with pleasure I write to you about my Night-blooming Cereus. It is now six years old and five feet high; had I not cut the top off



their full development they enlarge more rapidly, so that it can be told almost with certainty what night they will open. On the final day they increase several times in size, and, in the fading twilight, they unfold their buff-colored sepals until the pure, snowy-white petals stand revealed, a vision of purity. The spreading, reflexed sepals form a fine background, from which the petals, in tube-form, stand boldly out; gradually the spreading sepals take a regular

I think it would have been ten feet high by this time. In the winter the plant stands in the kitchen, and in the summer out in the yard with the other pot plants. It bloomed first when it was three years old, and had two flowers; this was in October, after it had been moved into the house. The next year it flowered while out in the garden, in July and August—this time it had nine blooms. Last summer it had nineteen buds, four of them opening in one evening. They usually commence opening about dusk and close just before daylight. I cut one flower and put it in a plate on the ice, in a refrigerator, and kept it open about two days. The plant is in a good-sized box, in common garden soil."



When not in flower the Night-blooming Cereus can hardly be called ornamental, although it is an interesting plant. The same remark will apply to the plants of the whole family of Cacti, of which there are a vast number of species.

The flower-buds of the Night-blooming Cereus first appear on the angular

ribs of the plant as little, white, cottony bodies, as large as a pin's head; the bud scales are covered with soft, silken, white hairs, apparently matted together. The buds enlarge gradually, but slowly, at first, remaining small for a considerable time; within a few days of

cup-shape. Through the night this flower diffuses the most delicate odor of vanilla, but the morning sun witnesses withered and faded what was only so recently bright and beautiful. We once cut one of these flowers when in perfection, and placed it, on a plate with water, in a stone jar in the cellar, and covered it so as to exclude all light, and kept it in fair condition through the next day. The specimen from which our engraving was made was raised by Mr. JACKSON LEWIS, San Jose, California. It remained open long enough the next morning to allow a photograph of it to be taken, and from this photograph our drawing was made. Mr. Lewis remarked in his note accompanying the photograph, "It is the only instance I have known when the flower was open late enough in the morning for a picture. The extreme diameter was fourteen inches, and the corolla eight inches, as the flower opened naturally, without being extended, but it closed about two inches before the artist was ready. The size was nothing extraordinary, but I think the opportunity for a photograph seldom occurs."

During the winter season very little care is required for the plant; it should be kept in a warm room, quite secure from frost, as in an ordinary living-room, and little or no water.

THE PASSION FLOWER.

The first sight of a Passion Flower is like a new revelation. It is apparently quite unlike any other blossom one has seen, and has peculiarities that do not agree with our previously-formed ideas of the possibilities of a flower; the mind must take time to consider the peculiarities of the different parts and arrange their rela-



tions. Its beauty is of the highest order, combining that of form, of colors harmoniously blended, and of motion, as the numerous filaments tremble with every breath of air. The name given to this plant is derived from the fanciful idea of the likeness of the parts of the flower to the instruments of Christ's torture; the three pistils are compared to the three

nails that fastened the hands and feet, the five stamens represent the five wounds in the hands, feet and side; the rows of filaments form the crown of thorns, and the five sepals and petals are ten of the disciples—the other two, Peter and Judas, being absent, as Judas has come to his death by his own hands, and Peter is absent from fear and shame. In the engraving our draughtsman has, no doubt, become convinced of the thorough repentance of Peter, for he has made an extra petal, showing eleven in the two rows, instead of ten, which is the proper number.

In answer to several inquiries in reference to this plant, we would say that it requires a light, soft soil and fresh repotting whenever started into new growth. None of the species are quite hardy in this locality; in Virginia and Kentucky, and southward, there is a very handsome native species, the edible fruit of which is called Maypops. In our greenhouses and conservatories are cultivated quite a number of kinds, producing most beautiful flowers. *P. carulea*, shown by the engraving, is a Brazilian species, better adapted than any other, on account of its hardiness, for house culture, especially by those making a first attempt. The leaves are five-pointed; the corolla is nearly white; the crown, composed of the filaments, is purplish at the base, pale blue at the middle and a brighter blue at the extremity. The flowers are solitary in the axils of the leaves, and develop successively as the stem grows.

WATER MELONS.

We are indebted to our friends in all parts of the country for samples of seeds sent us for trial, and while in most cases we find only those with which we are well acquainted, occasionally we receive things both new and valuable. During several years we had received some thirty samples of Water Melon seeds, which we had kept on trial. Four or five years since the New York State Agricultural Society held its annual show in Rochester, and we presented two of each of the kinds for



examination. A special committee was appointed by the society to examine the samples, who also called to their assistance several very excellent judges of fruit, and several hours were spent in their examination. We made a statement to the committee as to the mode of culture, earliness and comparative productiveness. The committee unanimously selected one as the most promising of the collection, and named it *Vick's Early*, as it seemed different from any known variety.

It has since retained all its good qualities, and seems to be received with general favor. JAMES H. GREGORY says in his *Catalogue*:—"I think so highly of this Melon, particularly as an early variety, that I have had a specimen, grown on my ground, photographed and engraved. It is of medium size, smooth, oblong, flesh bright pink, resembling strongly the southern varieties, solid and sweet. I consider it one of the best early Water Melons I am acquainted with."

One of very superior flavor, though not so early, was named *Strawberry*. It was sent us by a gentleman in Texas, who had grown it a great many years and found it uniformly superior. It seems to retain all its noted Southern flavor and improve in earliness by being grown at the North. We have many other varieties now on trial, but cannot say that any are showing very great promise of superiority over sorts now in cultivation. To obtain varieties that would give us the rich flavor of those ripened under southern suns, and yet perfect themselves in the North, has been our aim for years.

FLOWERING ROSES IN THE HOUSE.

It is all very well for the florist, with his perfectly-regulated greenhouse, to talk about the "common porous pots" being best for all purposes, but in a dry room, such as most sitting-rooms are during winter, my experience has been decidedly against them, especially for Roses. For want of the prescribed pots, several seasons ago, I planted some Roses in common white-lead kegs, first boring several holes in the bottom for drainage. The soil was a little heavier than I usually used—in fact, had no sand in it at all. They out-bloomed any pot Roses I ever saw, and were never without buds the entire winter. Profiting by this experiment, I have since tried planting the same kind of Roses in pots, kegs and tin buckets, giving all the same attention, and I find the pots do the poorest.

To have Roses in winter it is necessary to begin the spring before. Get good, healthy, small plants, keep them growing in pots during the summer, never allowing a bud to form. Two weeks before taking them into the house, cut them back and stimulate with manure-water, to promote a fresh growth; avoid letting the soil get too wet, and keep dust from off the foliage, and good Roses are sure to follow.—D. H.

SMALL FLOWERS.

In the MAGAZINE yourself and correspondents have described several varieties of small flowers that are useful for cutting, and I am pleased with this; for, while large flowers are well for the garden and for large ornaments, for the house and the church, for button-hole bouquets and small vases the little flowers only are suited. What is more beautiful than even a simple bunch of Mignonette in a tiny vase, for the stand or mantle?

Please allow me to introduce two little favorites which I think your readers will like when



CENTRANTHUS.

they become acquainted with them—the *Centranthus* and *Silene*. The former bears clusters of small flowers, white and pink, while one

kind has both pink and white in the same cluster. I suppose there are several distinct kinds, but I am satisfied with a paper of the mixed seed, as it brings me all sorts—just what I need for cutting—at the small cost of five cents.

The *Silene Armeria* is the variety I grow, and it is commonly called Catchfly. I have generally three colors in my little bed, white,



SILENE ARMERIA.

red and rose. Having no hot-bed or any keep of the kind I sometimes sow seed in boxes, but usually make a little seed-bed in the garden, and unless the season is very bad have no trouble in getting plenty of plants.—D. A. S., *Richfield, N. Y.*

HYACINTHS.

MRS. E. RUSSELL, of Jackson, Mich., writes: "I now have in bloom Hyacinths from bulbs that my father brought from New York in the fall of 1842, and had never once thought of their being less lovely than they were nearly forty years ago. We have always been careful to preserve every bulb; we sometimes let them stand in the ground two or three years, then take them up and divide the surplus bulbs among our friends. The variety I speak of is the double pale pink, and very fragrant. We also had the blue, but it was destroyed by the moles a few years since. Are the Oxalis and the Shamrock one and the same plant?" The Irish Shamrock is *Oxalis acetosella*. We rather think the Hyacinths of our correspondent are very poor as compared with the kinds now in cultivation. The very best known thirty years ago would not now be tolerated in a respectable collection.

LILIUM AURATUM.—A GOOD PLANT.

JAMES VICK:—The *Lilium auratum* I received from you in 1875 has done so well I think it is worth reporting. I put it in the ground in the fall of 1875. In 1876 it bore nine flowers, in 1877 it had fifteen, and this year it has twenty-three. The first flowers, five in all, opened yesterday, and to-day there are ten open. I have taken three offshoots from it, and two of them have flowers. The plant is much admired.—O. K., *Salem, Ohio.*

INTELLECTUAL PURSUITS OF LADIES.

We have noticed with much satisfaction the reports made within a short period, and especially within the last two years, of the increasing interest of the ladies in various parts of the country, in literary, historical and scientific subjects and pursuits.

To aid in the prosecution of their studies they appear to be organizing into societies and clubs, holding regular meetings for investigation and interchange of ideas. In our own city, this winter, a class has met to listen to lectures on natural history; in Syracuse the ladies have recently formed a club for the pursuit of botany, of which Mrs. RUST is President, and the club has the name of "The Rust Botanical Club." The intention of the members of the club is, first, to apply themselves to the study of the native Ferns, and afterwards to pursue general botany; especially will they attempt to examine and become familiar with the flora of their own county.

In all this movement there is something to be commended. The great want in many a life is some decided pursuit, some hobby. If the time that is wasted by thousands of people for the want of some definite object should be spent in the cultivation of the mind, a better and happier life would result to each of these individuals, and society would be better and richer in a manifold degree. Let us hope that the good work may go on and extend. There never was a greater mistake than to suppose that one's education should cease on leaving school—properly it should then begin.

To a very great extent the future moral development and the well-being of the human race will be based upon an underlying foundation of material knowledge—the clear perception of those physical laws that everywhere exert their influence upon us in connection with the universe. This, too, is woman's sphere.

WAX PLANT CULTURE.

I was reading in one of the numbers of your MAGAZINE an inquiry by a lady for the best method of treating a Wax Plant. I have one, two years old last May, started from a slip. It was started in good bank sand and has grown in it ever since. The sand has been changed once or twice, and kept moist. I occasionally give it liquid manure when I do the rest of my plants, using horse manure and a little hen manure that is rather old to make my liquid. I think it best to make my plants blossom the first summer. I kept my Wax Plant where it had the morning sun, and it commenced growing right along; it is now fully twelve feet long and very thrifty. I am often asked what I do

to my Wax Plant to make it grow so fast; I tell them how I treat it, and those within my knowledge that have treated their plants in the same manner have had good success in growing them. My Cactuses I give the same treatment, with the exception of letting them stand dry through the winter, or nearly dry.—MRS. J. M. H., *Fredonia, N. Y.*

WINDOW GARDEN.

MR. VICK:—*Dear Sir:*—I have now at hand your excellent MONTHLY MAGAZINE. I think it is very interesting and instructive indeed. I like particularly that part devoted to correspondence, and am very fond of reading all the letters published. We are all exceedingly pleased with the MONTHLY at home, and it fully realizes my highest expectations in all particulars. The colored plate of Roses in the January number is beautiful—true to nature. I really think those Aquilegias are the most beautiful flowers I have ever seen, judging from the colored plate accompanying the February number.

I have been very fortunate with my window garden this winter; I only wish I had a picture of it to send you. The plants are beautiful and green, with here and there a bunch of flowers. I have Geraniums, Heliotropes, and numerous other flowers, while Ivy vines adorn the window frames and extend across the room on strings. One of these vines is nearly thirty feet long, and is the admiration of all that behold it. In the midst of my little window garden, a little silvery fountain throws up its sparkling jet of water, making merry music and giving moisture to the atmosphere. The water is conducted to it through a small rubber tube about three yards long, from a reservoir above, which is not exposed to view, and another pipe leads off the overflow from the fountain. A little fountain like this is easily arranged, and will give much pleasure.—W. R. S., *Baltimore, Md.*

BEETS AND THEIR FAILURE.

MR. JAMES VICK:—If your correspondent of Au Sable Forks, N. Y., had examined his Beets and Swiss Chard, he would, no doubt, have discovered that some insect had been at work. I lost my Beets and Swiss Chard with the same trouble. I thought it was the Chintz bugs. They were very thick in this neighborhood last summer. Just at the top of the ground they eat into the bulbs of the Beets, and the Beets turned yellow. I never saw Beets die as mine did. It was in August, I think, during the extreme warm weather.—MRS. T. MCC., *Malvern, Iowa.*

STREW O'ER ME ROSES SWEET.



When I lie dead, strew o'er me roses sweet,
Bright, pure and beautiful : roses from head to feet !
Buds without stint, and leaves as fresh and cool
As ferns that nod by lily-haunted pool.
And let me hold them in these arms, my own !
So shall I never be again alone.

How have I loved you all the happy days
I walked with life—the old and pleasant ways !
Loved you so well I gave my best, and ye,
My own true loves, broke never faith with me ;
Nay, in your folds I often found the tear
I shed by night, a morning dew-drop, clear.

I want you all ! my roses Damascene,
The wild sweet-briar blooming in the lane,
My Bengal beauties, moss rose, pink and white,
With all *your* glory, it will not be night !
Let lily bells alone for me be tolled,
And drape the sod with trailing cloth of gold.

O, peerless darlings, of the sun and rain,
When did I seek your velvet lips in vain ?
Your thorns have left no scar upon my heart ;
My first, last breath, still yours !—A very part
Of all my being ! Go with me where blows,
On death's white bosom, life's immortal rose.

MRS. HELEN RICH.

 QUEEN ROSE.

A fair Rose said
Behold me ! in the garden bed
I reign, a queen—no other flower dare
With me compare.

The Lily pale
Tried to withstand me, but did fail ;
Though she stands fair and stately, yet, I ween,
I still am queen.

The dew-drops bring
Refreshment to me, while they fling
Upon my head a crown of diamonds bright,
To charm the sight.

The sun looks down,
And though he takes away my crown,
His bright beams, falling gladly on my face,
Give it new grace.

The wind's soft kiss
Touches me, bringing a new bliss,
And gently sways the branches to and fro,
With murmur low.

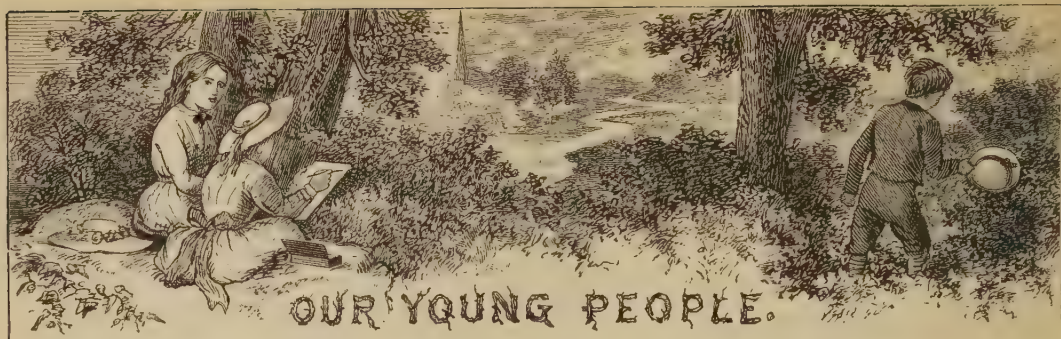
The children bless
And praise me, stopping to caress
My velvet petals, as they pass along,
With laugh and song.

I deck the bride,
As she stands, quiet, at the side
Of him whom she has vowed with tenderness
To love and bless.

And near the white,
Still face, whose eyes shall see the light,
Ah, never more !—whose lips no more reply,
Quiet I lie.

On graves I grow.
There, where the mourners come and go,
Their tears drop on me ; but I only smile
Calmly, the while.

I have no tears,
No looks of sadness, and no fears ;
I need have none—for 'mong the flowers I reign
Alone, a queen ! F.



BOTANY FOR LITTLE FOLKS.

The Evening Primrose is strictly an American plant, and has given its name to a family or order called the Evening Primrose family, or the order Onagraceæ. The characteristics of this order are so marked and so constant, it is always easy of recognition in the plants of its numerous species, abounding in all parts of the country. There are many species of the Evening Primrose, and one of the most common of them is *Oenothera biennis*, which will be considered here, to obtain a general idea of their form and appearance. Most of our readers in the northern part of the country will have little



Fig. 165. Evening Primrose, (*O. biennis*.)

difficulty in finding wild plants of this species, as well as others; in the South and Southwest many kinds are to be found that are not at the North. All of them are herbaceous, and flower during the summer. They are usually found growing on high, dry grounds, and on the prairies at the West.

Oenothera biennis, fig. 165, grows from two to five feet high. The leaves are alternate, and

the flowers, which are in a leafy spike at the top of the plant, are of a sulphur yellow color. The calyx consists of a long tube, joined to the ovary at its lower part, but extending upwards far beyond it and terminating in four points. The flowers open about sunset of each day, and then the parts of the calyx unclose from the bud and very quickly turn back and downwards, releasing the petals, which immediately spread out and exhale their fragrance to enhance the attractions of the summer twilight. In some species this sudden expansion of the flower is accompanied by a sharp noise, as that of an explosion, as if the plant were rejoicing in having arrived at this glorious condition of its existence. The flowers remain open during the night, but wither in the morning and fall away. There are four petals, obcordate or obovate in shape, situated on a disk or ring just within the throat of the calyx. With the petals, and also in the same manner, are inserted the eight stamens—that is, twice the number of the petals. Figure 166 shows the stamens seated on the ring at the throat of the calyx, from which the petals have been removed to show clearly the situation of the stamens. The ovary is four-celled, and the long, slender style is terminated by a four-lobed stigma.

We perceive by the diagram, fig. 167, that the parts of this flower are arranged in fours—four divisions of the calyx, four petals, eight stamens in two sets or whorls of four each, a four-lobed ovary, and a four-lobed stigma. One genus of plants belonging to this order, *Circea*, or Enchanter's Nightshade, has only two divisions of the calyx, two petals, two stamens, and a two-celled ovary, one of each standing opposite to the other; evidently the simplest arrangement is in twos, and therefore the plan of this order is said to be constructed upon the number two. In the *Oenothera* each pair of twos is repeated; in the stamens it is twice repeated. Carefully examine all the parts of a single *Fuchsia* and you will find that they are arranged in the same manner.

The calyx of the *Fuchsia* is white or colored, and this has been referred to in a previous

number, as an example of the instability of the character of derived parts. All the parts of a flower are only so many leaves in different forms and colors, and the flowers of one species or of one genus may show greater or less deviation from the original appearance of a leaf. As a rule, the calyx of a flower retains the original green or leaf-color, while the petals are white or some other color than green; but this rule is not invariable, for many flowers, as the *Fuchsia* we are now considering, have bright coloured sepals, and many others have green petals. All of the *Oenotheras* or Evening Primroses, of which there are many kinds, have the calyx green, while the petals are either yellow, white, rose, or reddish purple.



Fig. 166. Stamens and Pistils.

One of the most beautiful varieties of this order is the *Oenothera acaulis alba*, or the Dwarf White Evening Primrose. This plant is a native of Chili, South America. Its leaves have the general appearance of those of the Dandelion. The large flowers, about four inches in diameter, which are produced nearly all summer, are of a satiny, silvery white when first expanded, but soon changing to a soft rose tint; these harmonious colors heighten the effect of each other, and render the plant extremely beautiful. This plant is a perennial, and it is necessary to take it up and keep it from frost during the winter if it is desired to preserve it; this, however, is rarely done, as it is so readily raised from seed.

Oenothera Veitchii is a dwarf growing variety with large, yellowish flowers having a red spot at the base of each petal. A variety called *Lamarckiana grandiflora* or Lamarck's large-flowered Evening Primrose is a variety from *O. biennis*. It is a strong growing kind, attaining a height of four feet, and bearing a great number of large, bright-yellow flowers from June to September; the sudden expansion of the flowers of this variety is very remarkable. Quite a number of other varieties are in cultivation, but those described above we think the best. They are particularly well adapted to planting on the borders of shrubbery.



Fig. 167. Diagram of Evening Primrose.

The beauty, the fragrance and the frailty or shortness of duration of these flowers have oc-

casioned the expression of some fine poetical sentiments.

"But if our pleasures, like the flower,
At best must soon decay;
The breeze which blows a happy hour
The next may blow away:—
O, let the soul superior rise
To ev'ry human ill—
Just as the flower that, dying, sighs
Its lovely perfume still."

Of night-blooming flowers Mrs. HEMANS wrote the following beautiful lines:—

Call back your odors, lovely flowers,
From the night-winds call them back,
And fold your leaves till the laughing hours
Come forth in the sunbeam's track.



Fig. 168. The Fuchsia.

The lark lies couched in her grassy nest,
And the honey-bee is gone,
And all bright things are away to rest,
Why watch ye here alone?

Is not your world a mournful one
When your sisters close their eyes,
And your soft breath meets not a lingering tone
Of song in the starry skies?

Take ye no joy in the day-spring's birth,
When it kindles the sparks of dew,—
And the thousand strains of the forest's mirth,
Shall they gladden all but you?

Shut your sweet bells till the fawn comes out
On the sunny turf to play,
And the woodland child, with a fairy shout,
Goes dancing on its way.

Besides the *Fuchsia*, already referred to as a member of the Evening Primrose family, there is the *Clarkia*, from the Pacific coast, which is now commonly cultivated in our gardens as a beautiful free-flowering annual. The *Godetia*, which many of our readers have no doubt cultivated, is strictly an *Enothera*, or rather, what were once considered species of *Godetia* are



Fig. 169. *Godetia rubicunda*.

now referred to a section of the Evening Primrose family. *Zauschneria Californica* is a perennial plant cultivated for its bright scarlet flowers, somewhat resembling those of the *Fuchsia*. There are also raised for ornament some species of *Gaura*, *Eucharidium*, and *Lopezia*, all from Mexico, Texas and California.

This family produces nothing of any value for domestic or useful purposes, unless it be the *Trapa*, or Water Chestnut, which by some botanists is placed in this family, and by others is thought to belong to another, but closely related one. The roots of some species of *Enothera*, for example, *biennis*, are edible. The Fireweed or narrow-leaved *Epilobium* is used to some extent medicinally, but its properties are feeble and it is held in no particular estimation. On the whole, this order may be said to contribute little or nothing of material value to mankind, but its fragrant and graceful offerings will always make it prominent to the admirers of the beautiful in nature.

THE FROST FLOWERS OF RUSSIA.

MR. VICK:—Your MAGAZINE for March is received, and contents examined. I am highly pleased with some of your correspondents' contributions, and with their questions, and your prompt and instructive answers, which will benefit not only the propounders, but also every lover of horticulture.

I wish to ask you two or three questions in regard to the "frost flowers of Russia." I have been reading a description in a paper of these wonderful flowers. Have you ever been in northern Russia? or do you confine your operations to the temperate zone? Well, I thought at one time that no flower in the Creator's garden had escaped your observation, but I have never seen any description of this flower in any of your publications; for this reason I was led to believe that it had escaped your notice, as it grew in Siberia, and too near the north pole for a visit from you. Perhaps it is a myth! The following is the *verbatim* account of its discovery:

"This wonderful plant, or rather flower, is found only on the northern boundary of Siberia, where the snow is eternal. It was discovered in 1863, by COUNT SWINOSKOFF, the eminent Russian botanist, who was ennobled by the Czar for his wonderful discovery. Bursting from the frozen snow on the first day of the year, it grows to the height of three feet and flowers the third day, remaining in flower twenty-four hours and then dissolves itself into its original element—stem, leaves and flowers being of the finest snow. The stalk is one inch in diameter, and the leaves, (three in number,) in their broadest part are an inch and a half in width and covered with infinitesimal cones of snow; they grow only on the north side of the stalk, curving gracefully in the same direction. The flower, when fully expanded, is in shape a perfect star; the petals are three inches in length, half an inch wide in the broadest part, and tapering sharply to the point; these are also interlaced one with another in a beautiful manner, forming the most delicate basket of frost-work. The anthers are five in number, and on the third day after the birth of this flower of snow are to be seen on the extremities thereof, trembling and glittering like diamonds, the seeds of this wonderful flower, about as large as a pin head. The old botanist says, when he first beheld the flower, 'I was dumb with astonishment: filled with wonderment: which gave way to joy the most ecstatic on beholding this wonderful phenomenon of snow, to see this flower springing from the snowy desert, born of its own composite atoms. I touched the stem of one lightly, but it fell at my touch, and a

morsel of snow only remained in my hand.' Gathering some flowers in snow, in order to preserve the little diamond seeds, he hied to St. Petersburg with, to him, the greatest prize of his lifetime. All through the year they were kept in snow, and on the first day of the year following the court of St. Petersburg were delighted with the bursting forth of the wonderful frost-flower.'

Now, I do not know what your opinion may be, but it seems to me the editor has been gulled by his correspondent, who says this wonderful flower was produced at the Hub.—J. S., *Peterboro, Ont.*

We presume our young readers do not need to be told that *the Hub* means the city of Boston, nor that the whole account by the Count is of no account, and that the story is wholly fanciful. It probably derives its origin from the Snow Plant, *Sarcodes sanguinea*, which has been fully described in our columns; it is called Snow Plant, not because composed of snow, but because it grows near the snow. Very likely the whole was frost-work, aided by a little imagination.

MUSHROOM STOOLS.

The accompanying illustration will give our boys an idea of some mushroom-like seats set up by the sides of walks, in the pleasure grounds and woodlands surrounding the handsome residence of BARON ROTH-SCHILD, at Ferrieres. They are made of wood and soon become somewhat rusty in appearance, and the *Gardeners' Chronicle* (English,) from which we copy the engraving, says, "soon harmonize well with the trees and grass surrounding them." Perhaps the boys will try their ingenuity on some of these garden stools.



SWEET PEAS.

I have had more pleasure from growing Sweet Peas than from any flower I ever had. I just make a drill and plant them like garden Peas, and I make the drill six inches or more deep and sow the seed just as soon as the frost is gone; they always flower full, so that I can pick a good bunch every morning. They are the sweetest things in the world. An old gardener taught me how to grow them, and so I thought I would like to tell all the young people who read the *MAGAZINE*. Sow the seeds deep and early, and cut off the flowers every day before they fade, and they will flower until late in the summer. In very dry weather I give them some water.—FRANK M., *Michigan*.

DAHLIAS.

For four years I have grown Dahlias in my garden. The first one I ever had was a small root or bulb, and the color was dark red, but the center was open and yellow and the flower was large. The next one was a light pink.



POMPON DAHLIA.

Last spring I wanted a white one and mother bought me a root for twenty-five cents. When it had flowers, in September, it was the prettiest thing I ever saw. The flowers were not half as large as my old ones, just as pretty as could be, and didn't look much like Dahlias, but more like Asters. This plant was the nicest plant I had, for there were, I guess, hundreds of flowers, and we cut them whenever we wanted flowers. If there were a good many colors of small Dahlias like mine, I think everybody would want them—I should, so I write to know about it. Please say in the *MAGAZINE*.—E. J.

There are plenty of those small Dahlias, and of all colors that can be desired, except the long sought *blue*. There are two very good white sorts, *White Aster* and *Little Snowball*. This class of Dahlias is called *Pompon* or *Bouquet*, and bear great numbers of flowers, from one to two inches in diameter. Being so small, they are suited for a great deal of ornamental work where larger flowers would be out of place. The word *Pompon* is French, and means a top-knot or trinket, something of the same meaning as the English word, cockade. The English name is given, perhaps both on account of the great number of flowers the plants bear, and their fitness for bouquet making. We give a little engraving showing the habit of the plant.

Many people make a mistake in ordering Dahlias, thinking that because the flowers are small they must be the dwarf variety, which is not true. The plants of the Bouquet Dahlia are of the usual height, the flowers, and not the plant, being small. The *Dwarf Dahlia* is a low-growing kind, not usually reaching more than a foot or two in height, while the flowers are of the size of the ordinary Dahlia. Being short and spreading in habit, they cover a good deal of ground and make excellent beds. Those who design to plant Dahlias this season will please remember that they do best in a poor soil. With a rich, moist soil they grow rampant, and hardly get ready to flower before frost comes, particularly in the northern States.



SOME BEAUTIFUL blossoms of Sweet Peas were sending out their delicate fragrance, perfuming the air and inviting the attention of all who passed, by their rare loveliness. Even

the birds poured fourth their sweetest notes, and the warm sun kissed them over and over again, until the whole air and sky seemed to be wooing them and singing their praises. So infectious was the happiness they diffused that children loved to linger in their society, and would pull down the tiny buds to their little upturned faces, soothed into restfulness by their beauty.

"What a lovely world this is," said all the Sweet Peas. "Why can we not live just as we are now always? It is too bad that these dresses will fade and we must die! But we will have a good time while we can, with nothing to do but bask in the sunshine and make love to each other; the more loving and affectionate, the prettier we shall be. Love, is after all, the only thing worth living for; no wonder we are called sweet. The Roses are pretty, but they have thorns hidden under their leaves."

"They serve to protect us from danger," said the Roses, "for many think us lovelier than you, and if it were not for our thorns we would have no time to enjoy the sunlight and each other's smiles."

"The Morning Glories only look nice in the early dawn, before anyone is up but the birds," chimed out the Sweet Peas.

"An hour before sunrise, while you are fast asleep," replied the Morning Glories, "is better than many hours in the hot sun. We are satisfied."

"Well, those common looking Dandelions are jealous of us, at any rate," persisted the Sweet Peas. "And then, there is that Sage family, too vulgar for our company; some of them, with those horrid smelling Onions, are used by the cook to stuff geese. We are glad that none of our family are ever seen in the kitchen."

"Your first cousins, the Green Peas, are to be found in the kitchen," said the prim Miss Sage, curling her lips. "It is very ill-bred in you to be above your relations; do be silent, and not expose your ignorance! No family is more useful in the kitchen than yours. You had better learn a little of your own family history, and not talk so much; don't you see the Dandelions are all laughing at you?"

"If you only knew it, you have none of you anything to be so vain of," said a pale, sickly looking flower on the other side of the fence in a neighbor's garden. "If you had not fallen into the hands of those who knew all about you, and how to take care of you when helpless little ones, *rolling about*, and who trained you up in the right way, you, like me, would have been left in your weakness to lie on the ground, torn and neglected. If you are admired it is because fortune has favored you. I was left, with others, to lie on the ground, instead of being placed in a nice, soft, warm bed, and saw my companions, one after another, shrivel and die for want of water. I should have shared their helpless fate, but for a large Newfoundland dog, who ran over me and pressed me into the ground. I owe my life to a dog," said the humble, modest and grateful flower.

On hearing this the lovely group of Sweet Peas turned and looked at each other in silence; some of them blushed a deeper red, and others turned pale, which made them look prettier than ever. They had learned a lesson of humility, and were never again heard to speak contemptuously of their neighbors.—E. A. S.

ASTERS IN POTS.

Last year, as our County fair was to be held about three miles from where we live, and the officers wished to make a good show, I thought I would put some fine Aster plants I had in pots and take them. So I took up four of my best plants and put them in pots. I thought they might wilt, but they remained just as good all through the Fair as when I first took them up. I gave the earth a good soaking every morning and evening. I don't think there was anything nicer than my plants. The committee gave me a diploma, and I now have it nicely framed.—ELLEN D.



PAINTED FOR VICK'S MONTHLY.

SMALL FLOWERED PETUNIAS.

Lithographic & Chromo Co of Rochester N.Y.